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## Original Articles.

### PURPURA FULMINANS IN CHILDREN.\*

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Purpura was first described by Werlhof, in 1775, and is known as Morbus Maculosus Werlhofi, or Werlhof's disease. The mild forms of this affection are known as Purpura Simplex, and the more severe forms as Purpura Hæmorrhagica. When, together with other phenomena, effusions of blood into the serous membranes of the joints occur, it is known as Purpura Rheumatica. Another form of purpura, the subject of this paper, which is as a rule rapidly fatal, was described by Henoch under the name of "Purpura Fulminans," and by Hervé as "Purpura Fondroyant," so as to express more fully the overwhelming action of this form of purpura upon the system and its almost hopeless termination.

Scarcely any reference is made in our text-books to this fulminant variety of purpura, although, in looking over the literature of the disease, which is extremely rich, I found many interesting cases recorded by American, German, French, English, Italian and Scandinavian authors.

The prodromal symptoms of all forms of purpura are generally those of malaise, with chilly sensations and a slight rise of temperature; however, the disease may be ushered in suddenly without any initial symptoms. The characteristic phenomena of this affection are the hæmorrhages which take place into the sub-cutaneous tissues, the serous cavities, the joints, the internal organs and from the mucous membranes.

In connection with the case of which I have made notes I have collected a number of others, and shall briefly report them, limiting myself, with one exception, to the cases as they occur in childhood. Some of the cases were recorded as early as 1858, before the different forms of purpura had been as clearly classified as they are now, but from the symptoms and termination, I would consider them as belonging to the fulminant variety.

CASE I. On February 11, 1892, I was hastily called to see a child whom the father reported as probably dying. Their family physician, a homeopath, had been sent for, but the father was afraid the little one would die before his arrival. Upon reaching the house, the patient, a boy, four years old, was found in articulo mortis. The following conditions were noted: The face was drawn and wore an anxious, restless, distressed expression, it was so white that it could scarcely be distinguished from the pillow upon which the head rested, the lips, tongue, pharynx and buccal membranes were almost as white as the skin. There was marked retraction of the supra- and infra-clavical spaces, of the supra-sternal and epigastric regions, also of the intercostal spaces. The respirations were hurried and gasping, in fact, the appearance of the child suggested what the Germans call "luft-hunger." The pulse was rapid and thready, but not irregular. The mind was perfectly clear. The mother drew my attention to a condition which I had never seen before; the whole left leg from the knee to the toes was of a dark, uniform, blue-black color; the right thigh in its entire circumference, from the knee to the groin, was of the same dark hue; a purpuric patch about the size of a silver quarter of a dollar was also seen on the outer side of the middle of the right leg. The skin felt cold and slightly infiltrated in the purpuric areas. The

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hæmorrhages must have been enormous as not a patch of normal skin was visible in the whole extent of surface described. The conditions indicated that gangrene must have supervened had the child survived. The little one died forty-five minutes after it was seen. No treatment was instituted other than a little whisky administered every few minutes.

A few days after the death of the child the following history was obtained from the mother: L. W., aged four years, American of German and English parentage. Surroundings hygienic, clothing and food good, nervous temperament, had never been a very robust child. During the night of Feb. 3d, he complained of feeling sick, shortly after this he vomited, a bowel movement quickly followed, a faint scarlet rash was observed on the trunk, the throat was slightly sore and the glands on both sides of the neck were somewhat enlarged; however, no subsequent desquamation followed, and at no time did he seem seriously ill, only very weak; he had not been confined to bed, but was dressed and allowed to play in a room. On the morning of the eleventh, while dressing him, the mother noticed that he was extremely pale and apparently very feeble, she also observed a patch of purpura, about the size of his own hand, on the outer side of his right thigh. Becoming alarmed at this discovery she sent for the doctor, who made light of it and told her to wrap the thigh in cloth saturated with sweet oil and lime water. The child was then dressed and brought down stairs and placed in a little chair, where he remained all day refusing to eat or play, but otherwise he did not complain. At ten a. m., while attending to the dressing, the mother noticed that the patch on the thigh was increasing in size and that another one, about the size of a cent, had appeared on the outer side of the left leg. During the day these patches of purpura steadily increased in size until at nine p. m. they had covered the areas described. Slight epistaxis occurred in the afternoon, with this exception there were no hæmorrhages from any of the mucous membranes.

The character of the affection which preceded the purpura cannot, from the symptoms, be determined with any degree of certainty. This case occurred during the epidemic of influenza, a fact which must also be considered. It might be well

to mention that two brothers of the child, aged respectively ten and thirteen years, had fever with sore throat, but no rash, during the period of the child's illness.

CASE II. (Butler, *Buffalo Med. Jour.*, 1858-'59, xiv, 592.) A brawny eruption observed early in January between the shoulders. On January 15th, the same eruption, scarlet in appearance and inclined to bleed, appeared on the neck. On January 20th, large bruises were noticed on both sides of the head and occiput, these were attributed to a fall from the bed; however, closer inspection of the child revealed small purpuric spots on the extremities. No hæmorrhage from the mucous membranes. Death occurred on the fourth day after the discovery of the purpura. Autopsy revealed the kidneys congested but all the other organs anæmic.

CASE III. (Zuelschaur, *Klin., Wchnsch., Berlin*, 1869, vi, 176.) Girl, aged two years of good health, whose surroundings were unhygienic and dwelling damp. Vomiting and diarrhoea suddenly set in after a few hours of restlessness and fever purpuric patches appeared simultaneously upon the face, back and nates; no hæmorrhages from the mucous membranes. Death in less than twenty-four hours.

CASE IV. (*Ibid.*) Girl, two and a half years old of delicate health, whose surroundings were hygienic with the exception of a damp dwelling, and whose parents were healthy. She had suffered from three or four attacks of pneumonia since birth, and a bronchitis directly preceded the outbreak of purpura; she was taken sick suddenly at night with vomiting and purging. When she was seen at seven a. m. her face was extremely pale with a dark red patch on her chin; smaller spots were observed on her cheeks, neck, breast, back, abdomen, legs and thighs. Her pulse was rapid and her respiration hurried and gasping. No hæmorrhages from the mucous membranes. Death occurred at eleven a. m. of the same day.

CASE V. (Appenrodt, *Med. Wchnsch.*, 1876, 11, 439.) Child, one year old, was attacked with gastro-enteritis on the fourteenth of August; purpuric spots were noticed on the twenty-fifth of August; these continued to appear until the fifth of September. No hæmorrhages from the mucous membranes. The child was extremely ill, but recovered in three weeks.

CASE IV. (*Ibid.*) Child, nine months

old. Previous history; had whooping cough at two weeks of age, the disease ran its course in fifteen weeks and was followed by recovery. At nine months of age it was well nourished, although the mother stated that it suffered from "inward spasms." One day hæmorrhages suddenly occurred from the nose and stomach, these were quickly followed by the appearance of purpuric spots which rapidly spread over the trunk, extremities, pharynx and buccal mucous membrane. Death on the fourth day. Autopsy negative.

CASE VII. (Ström, *Eira Göteborg*, 1887, xi, 136). A child, two and a half years old, was seized with purpura a few days after recovery from scarlatina. There was œdema of one leg with pain, bloody mucous discharge from the nose, albumen in urine, pulse weak. Gangrene of legs ensued and death occurred on the third day.

CASE VIII. (Arctänder, *Hosp. Tid. Kjöbenhavn*, 1887, 3 R. V. 227-229). Child, four years old. Purpura suddenly appeared on one leg, and then on the other one, it spread rapidly until large surfaces were covered; the legs were cold, swollen, and tender to the touch. Intense thirst and restlessness prevailed. Effusions of blood occurred into the superficial layers of the skin forming large bullæ. There were no hæmorrhages from the mucous membranes or albumen in the urine. Death on the third day of the disease. The character of the lesions before death indicated that gangrene would have supervened had the child lived.

CASE IX. (Henoch, *Prag. Med. Wechnsch.*, 1886, iv.) Boy, five years old, was attacked Oct. 4th, by a frank pneumonia, which involved the base of the left lung. Ten days later he complained of pain in the left leg. This was quickly followed by the appearance of large and purpuric patches which rapidly increased in size and became confluent so that in a short time the whole body was of a blue black color. No hæmorrhages from the mucous membranes. Death in thirty-six hours.

CASE X. (*Ibid.*). Girl, two and a half years old. A few weeks after recovery from scarlatina large purpuric patches suddenly appeared on her legs, they spread rapidly and became confluent so that in a few hours the whole body was a dark blue

color, and large bullæ were seen on the surface. No hæmorrhages from the mucous membranes. Death in seven hours.

CASE XI. (Jackson, *Archives of Pediatrics*, 1890, vii). Male, five years old, whose previous health and hygienic surroundings were good, had had a mild attack of measles in the latter part of May. On June 10th, he became peevish and fretful and continued so until the thirteenth when small hæmorrhagic spots were observed on his back and extremities. Hæmorrhages suddenly occurred from the nose, stomach, bladder and bowels, which were so profuse that, to use the author's expression, the room was literally covered with blood. Death on the fourth day.

CASE XII. (Collie, *Lancet*, London, 1891, 1). Male, aged nine years. Three weeks after an attack of scarlatina large purpuric spots appeared on arms and legs, they continued to increase in size until large surfaces were involved. The face was pale and pinched, the mind clear and distressed. No hæmorrhages from the mucous membranes. Death in forty-eight hours. Rigor-mortis marked. No hæmorrhagic patches found in any of the internal organs; there was intense anæmia of the heart, lungs, liver, spleen, intestines and kidney. The fluids in the ventricles of the brain, pericardium, pleura and peritoneum were clear. Hæmorrhages into the subcutaneous tissue only.

CASE XIII. Herve, *Rev. Mens. de mal de l'enfance*, 1888, vi, 170-172.) Infant, three months old. Poor surroundings; peevish and fretful for twenty-four hours, when hæmorrhagic patches, the size of a dime, were observed on the abdomen and extremities, they rapidly increased in size and number. The face was pale and anxious, the respiration frequent and the pulse rapid. No hæmorrhages from the mucous membranes. Death in nine hours.

CASE XIV. (Rinonapoli, *Archiv. itat. di pediat Napoli.*, vii. 92-95). Child, two and a half years old. A patch of purpura about the size of a quarter of a dollar, suddenly appeared below the left buttock after a short period of malaise. A closer examination revealed quite a number of petechiæ covering the surface of the body; they increased rapidly in size. No hæmorrhages from the mucous membranes. No sugar or albumen in the urine. Death on the third day.

CASE XV. (Gibbons, *Med. Times and*



*Gazette*, London, 1885, 1. 2. 5.) Boy, three years old, suffered from chronic enteritis for one year previous to his death, and in consequence thereof had been kept on the most careful diet, when suddenly a large bruise appeared on the sacrum and on the inner side of each knee. No petechiæ present. A violent hæmorrhage from the stomach and a profuse epistaxis caused a fatal termination in a few hours. The mother discovered, just previous to the outbreak of purpura, that the cow, from which the child received its milk, had an abscess of the udder. The pus was noticed in the milk and the child was fed on other food.

CASE XVI. (Lanneau, *New Orleans Med. and Surg. Jour.*, 1886, vii., N. S. xvi, 245, 249). Girl four years old, no prodromata. Purpuric spots first appeared on the leg, they rapidly increased in number until the body was covered. Severe pain was present. Bloody movements of bowels. No rise of temperature. Seriously ill for two weeks; recovery.

CASE XVII. (Martin de Gimard, *France. Med.*, 1887, 11, 1557, 1569, 1581, 1593). Boy, eight years old. Purpura suddenly appeared without any initial symptoms. No hæmorrhage from the mucous membranes. Gangrene occurred in some portions of the body. Recovery after a protracted illness of months.

CASE XVIII. (*Ibid.*). Boy, fourteen years old, had a severe hæmorrhage into the skin followed by gangrene. Death in four weeks. A micrococcus was obtained from pure cultures from the affected tissues of the body, which reproduced the disease in rabbits.

CASE XIX. (Tizzoni and Giovannini, *Beitrage zur path. Anat. und Allgemeine Pathologie*, vi). Boy, aged four years, a strong, vigorous child had impetigo. On the tenth day of this disease he had a chill, his face became œdematous and a profuse hæmorrhage from one ear occurred. At the same time purpuric spots appeared upon the healthy skin and hæmorrhagic areas around the impetigo pustules. Urine diminished in amount, albumen and casts present. Hæmorrhages from the ears increased, and a blood tumor formed on the left side of the neck. Anorexia and vomiting. Death occurred on the fourteenth day after the appearance of the impetigo, and four days after the super-vention of the purpura.

CASE XX. (*Ibid.*). Girl, six years old, sister of the above case, slept in bed with her brother until three days before his death. Five days after the appearance of the disease in the brother, it manifested itself in the sister and spread rapidly; a week later she suffered from malaise which was followed by fever and successive chills; she vomited frequently and complained of pain in the epigastrium; her head, face, neck and hands were œdematous. Hæmorrhages occurred from her nose, ears, stomach and bowels, and a blood tumor appeared on the left side of her neck and upper part of her back. Death on the thirteenth day of the disease and on the fourth day after purpura showed itself.

It would be interesting to mention in connection with the above cases, that another child in the same family, a boy, nineteen months old, had impetigo a little later. The infections had been recognized by this time, and antiseptic washes and ointments fully used. Purpura did not supervene and the child convalesced rapidly.

CASE XXI. (Hanot et Luzet, *Archiv. de Med. et d'Anat. Path.*, 1890, 11). A woman, near the end of her pregnancy, although she had been well up to that time, suddenly complained of trouble with her eyesight, and malaise. No attention was paid to this and she slept well the whole of the following night. Nevertheless, the next morning she quite unexpectedly became comatose, purpuric spots making their appearance at the same time. During the night following, her child was born dead, it was a full term baby and but little macerated. The mother died on the third day of the disease, without having regained consciousness. Autopsy on the mother, purpuric spots on the skin, confluent in some portions; heart pale, liver and spleen enlarged, more especially the liver, in which hæmorrhagic extravasations were also found, lungs and kidneys congested; uterus revealed nothing abnormal. On removing the skull cap, the dura mater was found intensely congested, also tense from the underlying liquid; the pia was also congested and its veins, gorged with blood; purulent liquid was discovered under the arachnoid. Brain adherent in patches to pia mater, no marked congestion of the brain substance present, however, there were three or four small clots of blood in each hemisphere. Autopsy on



the child: slight maceration, putrefaction not advanced, no purpuric patches on the skin. The fluids in the serous cavities were slightly tinged with blood without odor or flakes of fibrin. There were hæmorrhagic extravasations into the thymus, liver, heart, lungs and pleura. No lesions were observed in the spleen, stomach, intestines or peritoneum. The brain was soft and congested, no pus was present. A streptococcus was obtained from pure cultures from specimens taken from the mother and child which reproduced the disease in rabbits. Of late years investigations into the etiology of purpura have been made by various French, German and Italian pathologists. Letzerich in a monograph (*Untersuchungen und Beobachtungen ueber die Aetiologie und die Kenntnisse der Purpura*) and also in a subsequent paper (*Die Aetiologie und die Kenntnisse der purpura nebst therapeutischen Bemerkungen. Zeitsch. fur Klin. Med., Leipzig, No. 5, W. O.*) gives most interesting results. This author has had six cases of purpura under his immediate care of which some recovered and some died. He succeeded in isolating a bacillus from pure cultures from these patients which when injected into rabbits caused purpura.

Letzerich divides purpura into acute, sub-acute and chronic forms. The inference is that by the acute he means the fulminant variety which is almost always fatal; sub-acute, purpura hæmorrhagica, which extends over a period of several weeks and which sometimes terminates in death but more often in recovery, and by chronic purpura, scorbutus, which several authors regard at the present day as purpura. While conducting his investigations Letzerich himself become infected with purpura in some unknown manner and had what he calls the sub-acute variety; he had three successive attacks all within one year each extending over a period of several weeks but each attack milder than the preceding one. During these attacks his liver increased rapidly in size and extended nearly to the crest of the ilium, a distinct enlargement of the spleen was noted. Hæmorrhages occurred from the pharynx, gums, nares, bronchial tubes and intestines. There were purpuric spots on the skin and buccal mucous membrane. He regards the liver as the breeding place of the bacilli on account of its enormous development.

Blood obtained from the hæmorrhagic spots on the skin and buccal mucous membrane stained with methyl violet revealed the same bacillus obtained from the culture experiments. He also, in the three attacks from which he suffered, obtained pure cultures from the spots and reproduced purpura each time in rabbits. From the beginning to the end of an attack the bacillus does not always present the same morphological characters; he suggests that this may account for the various bacilli described by others investigators. He infers from his experiments that purpura in all its forms is due to this bacillus and that the different varieties of purpura depend upon the intensity of the poison and the resistance of the individual.

Very elaborate experiments have also been made in Bologna by Tizzoni and Giovannini (*Bakteriologische und experimentelle Untersuchungen ueber die hæmorrhagischen Infection, Beitrage zur path. Anat. und Allgemeine Path., 1890*). In their culture experiments from their cases of impetigo followed by purpura, they obtained the staphylococcus pyogenes aureus, a pus producing bacterium, and a bacillus that had not yet been described which reproduced the disease in the dog, rabbit and guinea pig but not in the pigeon or white mouse. In order to cause purpura in the animals mentioned the bacilli had to be injected into the subcutaneous tissue, no effect being produced when they were injected into the blood, stomach or serous cavities. They concluded that the children died of a mixed infection, impetigo upon which purpura supervened, the poison which produced the purpura finding its entrance into the system through the lesions produced by the impetigo.

Of the twenty cases reported six had no prodromata, one was preceded by malaise, two occurred during convalescence from pneumonia, three after attacks of scarlatina, one after measles, one after recovery from whooping cough, one during an attack of acute gastro-enteritis, one during the course of a chronic gastro-enteritis and two during attacks of impetigo. Three were followed by gangrene, of these two died and one recovered. Five cases were girls, eight were boys, and in seven the sex was not mentioned. Thirteen cases had hæmorrhages into the subcutaneous tissue only, seven had hæmorrhage both into the subcutaneous tissues and from the mucous

membranes. In three cases the hæmorrhages were most marked from the stomach, in two from the ear, in three from the bowels, and in the two from the nares, eleven of these cases died and three recovered.

## INTESTINAL OBSTRUCTION.

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According to Dr. Hunter McGuire, "When a mechanical impediment to the passage of the contents of the bowel along the intestinal canal exists, the condition is known as intestinal obstruction."

The causes of this occurrence are numerous, the symptoms urgent, the diagnosis difficult, the treatment uncertain, and the termination, unless relieved by nature or art, speedily fatal. There is no class of cases to which the practitioner is called more important, or which demands on his part greater skill and judgment.

Most authorities agree in dividing the causes of obstruction of the bowels into two great classes—acute and chronic.

In acute cases the attack is sudden, the symptoms violent, and unless the cause is speedily removed, life ends in a few hours, or at most in a few days.

In chronic cases the causes act comparatively more slowly, the symptoms are chronic or less urgent, and the danger of death less imminent. In this class the cause is not uncommonly spontaneously relieved, and the individual restored to health without the aid of medicine or the surgeon's art. This result sometimes happens in apparently the most desperate cases.

This classification of acute and chronic obstruction is necessary for a proper clinical study of the subject, but it should be noted that in practice there will be found some cases which partake of many of the symptoms of both acute and chronic obstruction, making it difficult to determine to which division the class properly belongs. It may also occur that some, at first, well marked acute cases, subside and become chronic in character, also a chronic case sometimes changes its nature and becomes acute.

As a rule the conditions which produce symptoms of acute obstruction are:

Congenital malformations.

Impaction of foreign bodies.

Twisting of the bowel—volvulus.

Internal strangulation by loops, bands, false membranes, diverticula, mesenteric pouches, slipping of a portion of the bowel into natural or unnatural openings, etc., and

Invagination.

And as a rule the causes which produce symptoms of chronic obstruction are:

Constipation and fecal accumulation.

Stricture of the bowel.

Compression of the bowel from abdominal tumors.

Contraction of the bowel from inflammatory changes, often tuberculous.

The statement was recently made before the society of a neighboring county that cases of intestinal obstruction averaged one to each practitioner during a lifetime. But an examination of some statistics would seem to prove otherwise.

Leichtenstern—Ziemssen, vol. 8—shows that external hernia and malignant tumor being excluded one death from intestinal obstruction takes place in every 300 to 500 deaths from all causes in hospital practice.

Hilton Fagge has shown from an examination of the records of 4,000 autopsies in Guy's hospital that fifty-four, or about a quarter of one per cent. were cases of intestinal obstruction.

Heusner from his own investigations maintains that annually out of every 100,000 individuals from five to ten suffer from this affection, and that one to every 300 to 500 deaths is due to this cause.

According to the mortuary records of England an average of one death from this cause is seen in every 260. Brinton reports one death in every 280. His statement is based on 12,000 promiscuous autopsies.

According to these statistics one death, at least occurs in Norristown each year. This number does not seem large, yet if this one should be from the family of any one of us, it would still be too large.

The symptoms which characterize acute obstruction are generally of a most severe nature, they are more or less sudden in their appearance, and they bear a close resemblance to those which denote the existence of a strangulation in hernia. The

\*Read before Montgomery Co. Medical Society, November 2, 1892.

individual may be in the most perfect health at the moment of their occurrence, or he may have been more or less unwell, although still able to attend to his accustomed business. The disease is usually ushered in by a pain in a particular portion of the abdomen, of a sickening, gripping, colicky character, and soon followed by a decided nausea, and a sense of constriction in the situation of the strangulation. Prostration is an early symptom. The vital powers are depressed, as if the system had received a violent shock. Great restlessness exists. The patient is in great agony, tosses about in bed, his thirst is intense, his mental distress is equally great, and if old enough he is conscious of his danger, and is anxious and despondent. The vomiting increases in frequency, and the ejected matter consisting at first simply of ingesta or of bile and mucus, at length becomes stercoraceous; the abdomen is sensitive, so much so that the slightest pressure is almost intolerable; the bowels are tympanitic and obstinately constipated, the lower limbs are retracted to take off the weight and pressure of the abdominal muscles, the pulse is small, frequent and wiry; the features are pinched; the extremities are cold; often the mind wanders; the suffering is intense. And unless relief is speedily procured the patient dies, either from exhaustion or mortification of the bowel. The period at which this event occurs varies. It may be a few hours, it never is beyond a few days.

In chronic obstruction the symptoms are much less violent, than those that mark an acute attack. Their development is gradual. The chief trouble at first is constipation, with rumbling noises and frequent eructations, disordered appetite, more or less torpor of the liver, and progressive failure of the strength. Colicky pains are occasionally experienced, defecation is performed with much difficulty, and is accompanied with straining and tenesmus. After the case has proceeded in this manner for a variable period, it gradually or suddenly assumes a more serious character, evidently depending upon the occurrence of inflammation, which never fails to mark the close of the affection, whatever may be the nature of the exciting cause. From this out the case rapidly assumes the form of an acute attack.

A consideration of external hernia, is of

course, not included in this paper, but it is a rule as old as it is important—always to make a careful examination of the different points at which hernia may occur in every patient who presents symptoms of intestinal obstruction.

The diagnosis of intestinal obstruction is always determined with difficulty—except when it depends upon disease of the rectum low down, or some foreign body known to have been swallowed, but not passed. In almost all other cases it must of necessity be obscure.

In the limited scope of this paper I shall not attempt a differential diagnosis—but refer you to any of the many good works on surgery, in most of which are found some valuable diagnostic hints.

What shall we do when confronted with this most grave and dangerous affection—for grave and dangerous it is, as all who have seen it must testify. There are few conditions of the body which cause the practitioner more anxiety and embarrassment than cases of intestinal obstruction, and when the precise seat and nature of the occlusion is not known, the treatment is almost entirely empirical.

The distinction, however, between acute and chronic cases, or of acute supervening upon chronic symptoms, can almost always be made, and a patient investigation of the history of the case, the mode of invasion, and a rigid analysis of all the symptoms presented will generally enable the attendant to come to some positive conclusions as to the cause of the occlusion. One fact in the treatment which cannot be too strongly impressed upon the mind, is not to use purgatives and irritant enemata, formerly so much in vogue—in the hope of forcing a passage through the occluded bowel.

The patient is urgently solicitous for medicine which will open his bowels, but the use of purgatives to overcome intestinal strangulation is as senseless and hurtful as when used to overcome the constipation of external strangulated hernia. These agents only add to the nausea, vomiting, pain and peristalsis. The latter is often violent enough already to render coils of the intestine visible, and with every paroxysm may be adding to the entanglement and impermeability.

It is said that cathartics in some instances have unlocked the bowel in intestinal obstruction; these cases must be



exceptional and many of them were probably functional and not structural in character.

The great medicinal remedy in intestinal obstruction is *opium*—in small and repeated doses. Its use arrests the vomiting, stops the pain, and quiets the violent movements of the bowels. Very often by it the intestine is preserved and the life of the patient saved. No special dose can be prescribed, it should be administered until vomiting ceases and the pain is under control. Small doses of morphia given hypodermically, and quickly repeated is the best plan of exhibiting it. If for any reason its hypodermic use is impracticable, it had better be given by the rectum, for if given by the stomach it is apt to be rejected, or if retained, absorption goes on slowly or not at all. Opium lessens the danger of death by collapse; it gives nature an opportunity to untwist the gut in volvulus, or to unroll it in intussusception, or to cut off the invaginated part in gangrene; and internal hernia, morbid adhesions, strangulation by bands of lymph, stricture and other forms of obstruction, it diminishes violent peristaltic action, postpones inflammatory infiltration, fixation of the strangulated portion and keeps the parts in better condition for operative interference, which in many cases affords the only hope of relief.

To carry it further than slight narcosis and arrest of the most painful symptoms is an abuse of the remedy. By such abuse the symptoms will be masked and both patient and physician deceived.

When obstruction is due to faecal impaction, or spasm, the opium treatment is often indicated. Not infrequently after pain and vomiting are relieved and slight narcosis is kept up for some hours, the bowels relax and spontaneous evacuation takes place. If not, discharge of the contents of the bowel should be assisted by the administration of castor oil, or calomel and soda in divided doses, or repeated enemata of warm water.

These agents should be used, however, as long as there is pain, tenderness of the belly, or any evidence of peritonitis; but the opium treatment should be continued until all signs of inflammation have disappeared.

The local application of ice to the abdomen has been recommended; it is claimed by some that the danger of general

peritonitis is lessened, and that strangulation itself has disappeared under the use of cold. In some cases the local application of heat will give a grateful sense of relief to the sufferer.

Abdominal taxis or massage has been recommended. It has been attempted while the patient was in a warm bath or under the influence of chloroform; but when the cause and the nature and the site of the disease are unknown, this, in my judgment, is to say the least, a doubtful procedure.

The injection of large quantities of warm water into the bowels to overcome obstruction should never be omitted before resorting to operative interference. This plan has been known to succeed after other measures had failed. In place of water the bowel may be inflated with air—as has been done with hydrogen gas. Senn reports a number of cases of rectal inflation with hydrogen gas, with good results, and no ill effects either immediate or remote. Care should be excised in the introduction of water, air or gas, as rupture of the intestine has taken place following their use.

Very decided relief may be given by irrigation of the stomach, by removing the contents of the stomach and intestines above the obstruction, but the danger incident to the employment of such a temporizing measure in acute obstruction lies in the fact that too much valuable time is lost before a curative treatment is adopted.

Patients suffering from acute obstruction should abstain from taking either food or drink,—as digestion and absorption are almost if not completely suspended—and the accumulation of fluids in the stomach and above the obstruction cannot fail to aggravate the symptoms. It exhausts the patient's strength, by causing persistent retching and vomiting; it is one of the causes which produce distension of the intestine; it favors fermentation and putrefactive changes and causes violent peristaltic action.

In cases of acute obstruction of the bowels from bands of lymph, diverticula, internal hernia, slipping of a portion of the gut into some opening, or twisting, when the treatment suggested has been faithfully tried and fails, the abdomen should be laid open, the cause of the obstruction should be carefully searched for,

and if possible removed.

I have been criticised for saying at the last meeting of this society that the patient suffering from acute intestinal obstruction, after proper medicinal means had been used for forty-eight hours and failed, should never be allowed to go longer without operative interference. I find that the most recent and reliable authorities agree that this should be the rule, while many claim that a few hours, at most one day, may be spent in trying medical means. After that time if the patient is not relieved, the sooner abdominal section is resorted to the better the chance to save life.

Acute internal strangulation of the bowel has the same symptoms, course and termination that acute external hernia has. It demands the same treatment—removal of the cause of the constriction. Delay in performing the operation in the former is as certain to be followed by peritonitis, gangrene and death as in the latter, and the medical attendant who hesitates to open the abdomen—or have it done and an attempt made to remove the constriction in case of acute obstruction—after a fair trial and failure of medicinal means, is as culpable as the one who delays the operation of herniotomy for unrelieved strangulated hernia. Senn says: "To let a patient die of the consequences of a removable cause of obstruction without an operation is a reflection upon the advances of modern aggressive surgery. Even should spontaneous recovery take place, or recovery after medicinal treatment, this does not insure immunity from future attacks."

The individual whose case I reported at our last meeting has suffered three attacks since the first of this year, from each of which he has narrowly escaped with his life, and now lives in daily dread of a return of his old enemy. Another patient in Norristown is reported to me, who has suffered from four violent attacks. The fact that these patients recovered, in the past is no evidence that they will do so in the future; while the fact that they have suffered repeated attacks would seem to indicate that there is some structural change.

To my knowledge within the past month one patient died in our community, in which the autopsy showed that life could have been saved by an operation.

Another died in which no autopsy was made, hence it can never be known but that this life, too, might have been saved by surgical means.

As to the dangers of operative interference, I think I am safe in saying that we shall hear to-day that the danger of opening the abdominal cavity under proper precautions is so slight that patients suffering from ovarian tumors are encouraged to have them removed as soon as their presence can be diagnosed, at a time when the general health remains unimpaired. The mortality following abdominal section for acute intestinal obstruction will be reduced to that of other intra-peritoneal operations as soon as the importance of an early operation is recognized; before the patient's strength has been wasted by the disease, and before the parts involved in the operation have undergone irreparable structural changes.

#### A CASE OF OVARIAN PREGNANCY —LAPAROTOMY—CURE.

By EMORY LANPHEAR, M. D.,  
SURGEON TO ALL SAINTS HOSPITAL, ETC., KANSAS  
CITY, MO.

Many a woman has gone to the grave with a diagnosis of "pelvic hæmatocele," "peritonitis," "pelvic cellulitis," etc., when the real cause of death was extra-uterine pregnancy. Fortunately we are rapidly coming to the conclusion that (1) extra-uterine pregnancy is quite frequent; (2) that it may be recognized in many cases; (3) that in modern surgical methods we have a comparatively safe cure. As for the question of "pelvic hæmatocele," from an observation of a number of cases, I am almost convinced that in nearly every instance the trouble is ruptured tubal pregnancy.

It is now pretty generally conceded that all fecundation takes place either in the tubes or on the surface of the ovary, and the wonder has been that ectopic gestation is as rare as generally believed. I do not think it is very rare—in fact, it is of quite common occurrence; but because of unfavorable environments, early death and abortion of the product of conception occur in a large proportion of cases.

Lawson Tait has claimed that all extra-uterine pregnancy is tubal; in opposition to this Franklin Townsend, of Albany, before the American Association of Obstet-

ricians and Gynæcologists, 1888, presented an elaborate essay (which met general approval), in which the assertion is made that "extra-uterine foetation can and does occur either in the Fallopian tube (a frequent form), in the ovary, upon the ovary, or in the peritoneal cavity." That true ovarian pregnancy does take place is proven by the following case:

CASE.—Mrs. John W., age 42 years, patient of Dr. T. Brown, of Hamilton, Mo.; two children—one 18 years and one 1½ years of age; pregnant four years ago, but miscarried at four months; never well since; menstruating too freely and suffering from retroversion. Last menstruation occurred the last of May, 1892; some symptoms of pregnancy. August 2, was taken with hæmorrhage from uterus, accompanied by excruciating pains in left ovarian region, the bleeding stopped, but pain continued, with great collapse, and the abdomen became distended to its limit. Temperature has ranged from 99½° to 102°. In the night of August 15, I first saw her and examined her under chloroform. The whole pelvis was filled with a boggy mass, the lower part of the abdomen very full and a lump the size of a large orange easily made out in the left ovarian region. I therefore felt convinced of the accuracy of Dr. Brown's diagnosis of ruptured tubal pregnancy, and advised operation. On the morning of August 16, assisted by Drs. T. Brown and W. T. Lindley, I made abdominal section, and removed about one and a half gallons of fluid and of clotted blood; the left ovary was found to be the seat of pregnancy, its tube being whole and unaffected save the fimbriated extremity was bound down to the broad ligament by inflammatory action; to the ovary the placental attachment was plainly made out, and in its ruptured envelop the dead fetus. A clamp was applied, and the broad ligament transected and tied with catgut, the tube, remnants of ovary and the baby cut away. The abdomen was then thoroughly irrigated with boiled hot water to the amount of about eight gallons, and the abdomen closed with catgut sutures, without drainage, with the usual dressings. Six hours later the temperature had dropped two degrees and the patient was free from pain for the first time in many days; but little shock. August 20, she was reported as free from pain, sleeping well and appetite returning; temperature normal and pulse 80. Recovery was uneventful, she being allowed to sit up in bed on the tenth day and to walk a little by the sixteenth.

Examinations of the specimen showed conclusively that this was a true ovarian pregnancy, the tube being as perfect as any I have ever seen, save at its extremity, as already mentioned.

The treatment usually advised for extra-uterine pregnancy is electricity, if a diagnosis has been made prior to rupture of the enveloping structures, the idea being to destroy the vitality of the impregnated ovum and allow its abortion. This I do not believe to be good treatment, for whenever pregnancy is sufficiently advanced to allow even a provisional diagnosis, the mass is already so large that it can only remain, and remaining be a constant menace to the life of the patient; for no woman with such a foreign body in the pelvis can be for one moment free from danger. Fatal inflammation is likely to

be set up at any time, even years afterwards. And if a wrong diagnosis has been made, incalculable mischief may be done by the electric current; whereas, as Wathen says, "We find nothing against the knife, except that it is a surgical operation. No case of death has ever been reported as due to the knife. If a mistake in diagnosis has been made, no harm has been done, as the disease, whatever it is, will require the knife anyway." And, I may add, if the condition happens to be such that nothing has to be removed, exploratory laparotomy is an almost absolutely safe operation in clean and skilled hands; I have opened many bellies for exploration, and have never seen a symptom follow to cause regret. So I will say that whenever ectopic pregnancy is suspected, laparotomy is indicated, and urgently.

All authorities unite in advising abdominal section whenever rupture has occurred. That the operation may be done even a week or two after the accident is proven by the case here reported. But as a rule it may be said the earlier the surgical interference the better.

## Clinical Lectures.

### OSTEOCLASIS.\*

By PROFESSOR GRATAN, M. D.  
DUBLIN, IRELAND.

Professor Grattan was introduced to the class by Professor Sayre who stated that the distinguished visitor while in New York had consented to give a surgical clinic illustrating the operation of his instrument known as the "Grattan Osteoclast." Professor Grattan exhibited an instrument devised by himself for the purpose of fracturing the bones, particularly of the lower extremities, without resorting to compound fracture by the chisel and mallet. Hitherto it has been the custom in operating for the cure of "bow-legs" to first make an incision exposing the bone and then by a chisel cut part way through the bone which is then, by the application of force, fractured. This operation is attended with many dangers. First, we have the evils attendant on a compound fracture; second, a liability to septic infection; and third, the possibility of a fat

\*Delivered at Bellevue Hospital, New York City, under the service of Professor Lewis A. Sayre.



embolus resulting from disintegration of the bone medullary substance. The "Osteoclast" is intended to overcome all these dangers. By it the soft tissues are not opened, the periosteum of the bone is not ruptured and the medullary substance is not disturbed. In operation it is extremely simple and the bone can be broken at any point desired. The instrument consists of two smooth, curved, parallel rods bent so as to encircle one-half the limb. These rods or arms are so arranged that by a screw they may be separated or brought together at will. By their straight end they are inserted into a plate through the upper part of which works a powerful screw. This screw points toward the curved arms and when the instrument is in operation the end of the screw plays in a wedge-shaped piece of steel that is placed against that portion of the limb that is required to be fractured. It is thus seen that the limb is between the curved arms of the instrument on one side and the wedge of steel on the other, and that by the screw this wedge can be forcibly brought to bear upon the bone and thus fracture it. To illustrate the *modus operandi* of the instrument a patient was brought before the students for operation. The patient, a girl, was seventeen years of age and of robust health excepting a deformity of the left thigh. This deformity consisted of a curving of the femur in its lower third. It existed from childhood and as she progressed in age and stature the deformity became more pronounced. At the time of the operation this left leg, due to the curve in the femur, was bent outward at an angle of seventy degrees. The patient being anaesthetized the "osteoclast" was applied to the limb at the point of deformity. The wedge was screwed slowly against the limb until the operator felt that two or three more turns of the screw would fracture the bone and then by making these last turns very quickly the bone was broken. After the removal of the instrument it was seen that, although great force was required to effect the fracture, the integument was not injured, and that it left the limb in a condition of simple fracture. The leg was now put up in a plaster of Paris cast, and when shown in the clinic two weeks after, was in a perfectly healthy condition—the patient having suffered no constitutional disturbances whatever.

## Communications.

### CROUP, DIPHTHERIA AND SCARLET FEVER.\*

By F. LEONHARDI, M. D.,  
DRESDEN, GER.

(Continued from page 772.)

During the epidemics of diphtheria the inflammation seen on the posterior fauces resembles often closely that which is seen in the initial stage of scarlet fever, thus often leading to mistakes in diagnosis, or named by some angina scarlatina sine exanthemata. But since the true specific bacillus of diphtheria has been found by Klebs and Loeffler, which is never present in scarlet fever, (in this latter one finds only cocci or streptococci), such mistakes cannot occur in the practice of the scientific physician. The comparison of the two diseases, however, still presents interesting points for further study.

The author's experience of Scarlet Fever dates as far back as the epidemic in 1843 at Leipsic, where he treated in private practice twenty-four cases, three of these ending fatally. During the years 1847 to 1856 he again had a series of seventeen cases, with three deaths—these belonged to the poorer classes. In private practice 1847 to 1892 he had 114 cases with eleven deaths, aside from these there were 120 treated at the Polyclinic. These, however, cannot be studied in their entirety since there are some discrepancies in the history.

The mortality of scarlet fever varies with the severity and gravity of the epidemic. The incubative period Leonhardi was able to observe in four cases with perfect certainty during the years 1872, 1875, 1884, 1889, and noted in each that it was five days. Prof. Cerutti in his lectures on special pathology (1843) also gives five days, while others Strumpell, Ziemssen, Thomas, etc., place the time from four to seven days. The natural course of Scarlatina is sudden in its onset with high temperature, marked increase in pulse rate, painful deglutition, redness of the fauces; vomiting may be present; appearance of rash either at end of first day or beginning of second. Fever either stationary or some increase up to third day together with

\*Abstracted and translated for MEDICAL AND SURGICAL REPORTER by Marie B. Werner, M. D.

deepening in color and extension of the rash. A beginning decline of the fever on the fourth day until it reaches normal on the eighth or ninth day, the redness also gradually disappears and desquamation begins.

The description of this fever is quite similar to that found in uncomplicated (epidemics) of diphtheria, also of tonsillitis not due to scarlet fever, and not infrequently like some cases of non-suppurative erysipelas. The author's observations have led him to believe that when the thermometer registers in the first days 40°C. or more in the axilla, it is found chiefly in patients who have kept their skins active, promoting evaporation and perspiration, and that it was continued during the exanthematous stage. In these cases the desquamation period was satisfactory and unaccompanied by renal disturbance, the urine showed no albumen at any time during the daily examinations extending over three weeks. If the fauces and tonsils at first showed some whitish deposit and the tongue was thickly coated, they all disappeared promptly after the fever began to abate, so that at the end of the first week, tongue, fauces and tonsils presented a clean surface.

The treatment consisted in promoting the activity of the skin, by giving plenty of weak acid lemonade and tea from the linden blossom with milk. If the fever was high the following mixture was ordered: Sod. nitricum, Sod. bicarbonat. aa 2.5 to 4 grms., Aq. 180, Syr. Althea 20 grms. S. A dessert-spoonful every two hours. Also a gargle consisting of lukewarm water holding in solution a small quantity either of Potass. chlor. or Sod. bicarbon.

In order to aid in lowering the mortality of scarlet fever it becomes important to begin in early life to promote a healthy action of the skin by regular baths followed by cooler douches. Undue exposure of arms and legs in children does not aid in this, but will harden the skin and reduce its functional activity, and children dressed in this manner are just as susceptible to catarrhal inflammations or enlarged glands; and the usual diseases of childhood are just as severe as in those whose blood is warmer.

In the irregular forms of scarlet fever the author noticed: First; coincident with the onset of the high fever there was con-

gestion of the brain, unconsciousness and convulsions. Second; in other cases in which the fever was not high at the beginning and unaccompanied by the above named manifestations, it remained high beyond the stated time and even increased with the appearance of subsequent brain symptoms. The skin was harsh and dry and clearly was the cause of the hyperæmia of the rete malpighii. The author feels certain that in connection with the arrested function of the skin we have the beginning of hyperæmia of the inner organs, notably the kidneys. Third: The dangers of throat complications; this does not embrace the ordinary sore throat of scarlet fever, but considers such cases in which the poison has entered the deeper structures. Symptoms of this can be seen as early as the fourth or fifth day—are diphtheritic in character, coagulated necrosed tissue, gangrene, extension of inflammation into posterior nares, and mucous membrane of the nose, eustachian tube, middle ear, accompanied with lymphatic infiltration, about the neck and lower part of the jaw, with possible supuration, septicæmia and pyæmia.

Of the seventeen deaths seen among one hundred and fifty-five scarlet fever cases three occurred in from two to four days. In ten cases death occurred between the fourth to ninth day, preceded by congestion of the brain, unconsciousness and cardiac paralysis. Four died after the second week due to renal complications.

Leonhardi has never shared the opinion of those who believe in the possibility of a mixed infection of scarlet fever and diphtheria, basing this diagnosis entirely upon the grave throat symptoms which are sometimes present in scarlet fever. The resemblance of symptoms objective and subjective can be explained by the absorption of infectious poisonous matter of scarlet fever. The author states further that he believes the tonsils and follicles in the pharynx offer a pregnant soil for certain germs and that is one of the principal mediums for infection of scarlet fever and explains to him the fact that persons exposed to the fever and who have previously had the fever often suffer from a more or less severe angina scarlatinosa sine exanthemata. In 1843 he saw two such cases which presented the complete picture of diphtheria; norash was present; this appeared after exposure to scarlet fever. The elder

child made an uninterrupted recovery the youngest suffered from dyspnoea on the fifth day and was relieved by an emetic, which aided in expelling many shreds and an entire cast of the uvula the child recovered after fifteen days' illness. There is no doubt that those doubtful cases can easily give to those so disposed a bona fide attack of scarlet fever and cites a case which occurred in 1889, a child of five years had not left the house for two weeks owing to a cold and in consequence not come in contact with any person outside the family, she was suddenly taken ill with scarlet fever, it was found that the father had begun to suffer five days previously from tonsillitis accompanied three days with fever, no rash. The child passed through a severe attack of scarlet fever lasting twenty-one days.

High temperature, congestion of the brain, unconsciousness and convulsions appearing in the early stages were treated by the old practitioners by local bloodletting at the temples or back of the ears; five to ten centigrams of calomel every hour or two, cold applications to the head. This has found favor with Leonhardi, who also uses baths when indicated, but speaks with greater satisfaction of the results gained by inunctions.

Hydrotherapy may be considered of value in grave cases to combat the excessive dryness of the integumental coverings to prevent a thickening of the epidermis and a consequent lack of proper exhalations. The patient is placed in a bath of 22° to 26° R. for five to eight minutes, giving cooled douches at the end of bath, in grave nerve symptoms they can be repeated two or three times daily. To this can be added the inunctions of fats two or three times daily, which the author believes to have diminished the number of renal complications. Internal medication consisted of acid muriat. dil. one to two grms. to aq. 150 to 180 grms., liberal internal use of water mixed with lemon, apple or raspberry juices.

English physicians recommended as a specific, in 1820, carbonate of ammonia, adding to this some camphor in case of cardiac failure. This will be found quite useful. In acute hæmorrhagic nephritis with diminished and concentrated urine, Leonhardi recommends first two to ten centigrams of calomel every two hours, followed by liq. potass. acetat., tartrate of

soda, seltzer water, with lemon juice or white wine. Even in profuse secretion of urine with albuminuria the vegetable acids will be of value so long as the urine is of an acid reaction. The mineral acids should be used when the urine is alkaline in reaction. In cases of heart failure camphor, ammonium preparations and musk will be found useful.

The severe throat complications of scarlet fever are best treated by the repeated injections in the mouth of a solution of alum or borax with potass. chl. honey of roses and water. In addition to the lemonade and linden blossom tea the following mixture has been of service, nitrite of soda, bicarbonate of soda aa 2-r grms. aq., mucilage of acacia or syr. althea 200 grms. The treatment followed since 1863 to date has proved successful in all but four of seventy-one cases. One death was due to convulsions occurring on the ninth day. The other three cases were first seen on the fourth day of the eruptive stage. So convinced is Leonhardi of the utility of the repeated local washings by injections and their beneficial results that he feels certain that Heubner of Leipzig has attained the last good results mainly by the use of his hourly lukewarm boric acid injections, rather than by his three per cent. carbolized injections into the tonsils.

#### A CLINICAL DESCRIPTION OF DYS- ENTERY AS IT OCCURS IN NICARAGUA.\*

By JUDSON DALAND, M. D.

Three varieties of dysentery are met with in Nicaragua, namely, the malarial, the endemic, and the epidemic, and of these the malarial is by far the most common. The prodromal symptoms of malarial dysentery are malaise, pain in the back, in the head, and in the umbilical region extending toward the pubes. In association with the diarrhoea these pains are highly characteristic of this form of dysentery. Mild cases are marked by very slight febrile and circulatory disturbances; whereas in the more severe cases, we have a moderate elevation of temperature, varying between 102° and 104° F. The stools are at first composed almost entirely of pure mucus, are small in

\*Read before Phila. Co. Med. Soc., October 26, 1892.



quantity, and are frequently attended by tenesmus; soon the mucus is streaked with blood. The pains are not usually severe during the act of defecation, but the pain in the head and back is excruciating. Liver complication are not infrequent, particularly acute hepatitis or acute hepatic engorgement, each of which is frequently associated with jaundice. Hepatic abscess is a rare complication and is usually secondary to the ulceration of the colon. At times the spleen becomes greatly engorged.

Changes in the urine, indicative of kidney disease, probably exist, but chemical and microscopical examinations are rarely made from lack of proper instruments and reagents. Many of these cases of malarial dysentery are followed by intense anæmia and debility, lasting for several months.

When cases are seen early and promptly treated, the prognosis is almost uniformly favorable, but when seen late they usually die. As post-mortem examinations are never permitted, no information exists regarding the morbid anatomy or pathology of this interesting disease. The *amœba coli*, if searched for, would be found in many of these cases.

The treatment found most successful by Dr. Bermudez, of Managua, Nicaragua, is as follows: To an adult is given six grains of quinine morning and evening, in conjunction with—

**R** Ammonium chloride.....gr. v.  
Pulv. ipecac.....gr. v.  
Tr. opil.....gtt. x-xv.  
To be repeated every two hours.

The amount of laudanum is determined by the severity of the pain. When the pain is particularly severe and obstinate, morphine is superadded, and, in cases marked by debility, it is customary to substitute the carbonate for the chloride of ammonium in five-grain doses, every two hours, day and night.

In the way of food nothing is permitted except milk or milk and lime-water, to which sago may be added. The patient is allowed to drink freely of cool water, thus alleviating the intense thirst which is usually present. Ice-water is considered harmful.

The *second* variety, known as endemic dysentery, resembles the preceding, but is very much milder, and is usually unattended by the fever or the severe pains in the head, back, extremities, or abdomen that characterize the malarial form. The

stools are composed of fæces mixed with mucus and blood; are less frequent, and the tormina and tenesmus are less severe.

The average duration of malarial dysentery is three weeks, but occasionally it has been known to last two months, while very mild cases run their course in two weeks.

The treatment for this variety is the same as for the malarial, with the exception that the quinine is omitted. Almost all cases recover, and complication or sequelæ are uncommon.

The *third* variety recognized is called epidemic dysentery, which, as a rule, comes on suddenly, with pains in the head, back, throat, and extremities, accompanied with severe abdominal pains, shooting in character and centering at or about the umbilicus. Headache is particularly complained of; and not infrequently nausea and the vomiting of bile are associated. From the first the discharges are bloody, frequent, and there is intense pain and tenesmus. There may be as many as one hundred and fifty evacuations in the twenty-four hours, and an ordinary case may average twenty-four in the twenty-four hours, or one hourly, day and night. The temperature is high, ranging from 104° to 106° F., with a morning remission of two degrees, at which time there may be moderate perspiration. Severe cases die in less than seven days, and favorable cases may recover in from two to three weeks.

The discharges from the intestines continue bloody throughout the disease, but change in color, becoming dark and sometimes black from decomposed blood-pigment, and frequently they are vicid and tenacious from admixture with mucus.

At times the patient becomes delirious, and occasionally coma supervenes. Children often develop twitching of the muscles, rolling of the eyes, and there is a tendency to bury the head in the pillow.

The complications usually noted are hepatitis, jaundice, and abscess of the liver. Usually so soon as hepatic complications occur the patient dies; in other cases epidemic dysentery is complicated by croupous pneumonia with rusty sputum, and it usually affects the base of the right lung. Now and then severe internal hæmorrhages occur, and such an accident explains the cause of sudden death which has been occasionally observed. In this form of dysentery the anæmia and debility

are more marked than in the malarial form, and is more persistent. Not infrequently the patient suffers from obstinate constipation, due to stricture resulting from the healing of large and deep ulcers in the colon.

The cases are best treated by the administration of from ten to twenty grains of quinine given three times daily, and in addition chloride of ammonium, five grains; pulverized ipecac, five grains; and tincture of opium, ten to fifteen drops, repeated every two hours. Frequently, however, there is so much gastric irritability that these remedies are not retained, and in such cases the quinine is continued, but the chloride of ammonium and ipecac mixture is omitted, and fifteen grains of bismuth or five grains of tannic acid, repeated every two hours, is substituted. When opium is indicated it is invariably administered in the form of the tincture, in doses of five to fifteen drops, repeated every two or three hours according to the severity of the case. At times nitrate of silver, in doses of one-sixth or one-eighth of a grain in pill form, is given every three hours. If the astringents mentioned prove of no avail, recourse is had to the acetate of lead, in doses of two or three grains every three hours. Most cases require stimulants, and experience has shown that alcohol in the form of brandy or whisky is *inadvisable*, and that the best results are secured from the use of sherry, port, or any of the red or white wines, associated with the carbonate of ammonium, in ten-grain doses repeated every three hours.

The food is restricted to milk and lime-water, sago, and farina. Not infrequently Dr. Bermudez has seen as many as one hundred cases in two months with the mortality of but 2 per cent., and his father would probably see as many as two hundred cases in the same length of time.

Dysentery is one of the most common diseases of Nicaragua, and typical examples of the disease may be seen any day in the year. Most cases of malarial dysentery are observed during December, January, and February, while the epidemic variety occurs more frequently during the months of March, April, and May. Of course, endemic dysentery is always present, and, as would be naturally expected, is equally prevalent at all seasons. The malarial form prevails chiefly in low, marshy dis-

tricts, during the hot months. It is well to remember that the dry season, which corresponds to our summer, begins in November and ends in April, the remaining months constituting the Nicaraguan winter, or wet season. The average maximum temperature in the dry season is from 95 to 98 degrees. There is a difference of at least ten degrees between the temperature of the day and that of the evening.

The contagiousness of epidemic dysentery is fully recognized, and all ordinary precautions are taken to prevent the spread of the disease. Isolation, the free use of carbolic acid, the burial of all discharges, especially fecal and urinary; the burning of the linen soiled by the discharges; and in cases where the patient is too poor to submit to the destruction of clothing by burning, they are disinfected by boiling water.

In all of these cases no researches have been made regarding the presence of the *amoeba coli*.

Nicaragua has excited much interest of late, particularly in view of the probability that in the near future the Nicaraguan canal will become a reality, which will bring it into intimate relations with the entire world. I have, therefore, ventured to record these observations regarding a disease which prevails constantly, and at times becomes contagious.

My thanks are due to my friend and student, Dr. Salvador Bermudez, and to his father, who has practised in Nicaragua for more than thirty-five years, for the description of dysentery as it appears in Nicaragua, and for the treatment which has given them the best results. The enormous experience of the physicians of Nicaragua has heretofore never been made known to the medical profession, in so much as they have no medical magazine to which they could report their observations; and, moreover, at no time has it been their custom to carefully note the cases under their care; so that this report is of particular value, and is, perhaps, the first of the kind published in the English language. It is especially worthy of note, that the greatest confidence is placed in the use of the chloride of ammonium, and that this is their uniform practice. I would, therefore, suggest that it be employed in the United States, especially in the Southern States, where the climate more nearly resembles that of Nicaragua.

# ACUTE CEREBRAL MENINGITIS SUBSEQUENT TO SPONTANEOUS ABORTION.\*

By H. A. ARNOLD, M. D.,  
ARDMORE, PA.

A single case offered as the basis of an article presented for your consideration must possess features that are profitable, or at least unique, in order to merit such presentation.

The following is offered in the hope that it possesses these distinguishing qualities:

Mrs. J. B., twenty-two years of age, married, the mother of two children, presented herself at my office in May, 1891, suffering from onychia.

There was the customary history of insufficient and impoverished blood, debility, and loss of appetite that we usually find in these cases.

Under a suitable regimen, and the use of tonic-alterative treatment of a ferruginous character, she recovered her health perfectly, and remained so until August 8th, when she was "unwell" for a day or two.

On the evening of Saturday, August 15th, she suddenly began flooding, went to bed, and remained there until 10 o'clock the next morning.

Feeling well all day Sunday, she attended to her accustomed household duties, and on Monday morning did the family washing.

At 3 o'clock P. M. (Monday the 17th), she began flooding alarmingly. She did not know she was pregnant, and could not have been more than one and a half or two months.

The word brought me by the messenger, not being of a definite character, I did not go directly to the house, and on my arrival I found a neighboring physician extracting the last fragments of placenta.

The patient was pulseless, bloodless and collapsed.

I speedily gave her tincture of digitalis, m. xx, hypodermically, also one fluid drachm by the mouth, in conjunction with port wine, the only stimulant at hand.

Immediately after a hot douching with plain water, the pulse, which had begun

to make its appearance at the wrist, failed again; she became unconscious, and while so, vomited portions of an undigested dinner, the dejecta being principally sugar corn and tomatoes.

Two succeeding attacks of nausea and vomiting relieved the stomach of the remainder of the dinner, and, after administering hourly doses of tincture of digitalis, m. x., I left her at 9 o'clock, P. M.

18th. No rest last night. General condition fairly good considering yesterday's experience. Urine passed at noon to-day; circulation improving, but still quite weak at times.

19th. Good rest last night; general improvement; slight headache; kidneys acting perfectly.

20th. Did not rest so well last night, but says, she "feels well enough to get up," only her head swims a little. Slight pain in vertex and occiput. Tires soon of conversation. At 8 o'clock, P. M., word reached me that she had had two convulsions. I found her with hot head and dry skin. Learned she had complained of feeling cold, and had a chill, followed by fever. Soon after my arrival she had a third convulsion. The eyes were frightfully congested, face flushed, head rolling from side to side, considerable muscular twitching, particularly of the forearm and hand. At frequent intervals she would give utterance to the piercing brain-cry, so diagnostic of meningeal trouble. The pupils were widely dilated; the expression vacant, indicating obliviousness to her surroundings.

After a hypodermic injection of morphia sulphate, grain, one-half, I gave her twenty grains of chloral hydrate, and directed ten grains to be given every hour, while not sleeping. I left her, at 10.30, P. M., resting quietly. A few minutes later she was aroused by a neighbor, who called to inquire as to her condition, and the hourly dose of chloral was administered.

21st. 8 A. M. Little, or no, rest last night. Delirious this morning rolling-head—eyes terribly swollen and reddened, head fiery hot and congested, skin dry and hot, and has a yellowish, waxy appearance,—pulse rapid and thready,—all the blood she has is seemingly in the brain—brain-cry almost constant—no response to questions.

I discontinued the chloral. *She has*

\*Read before Norristown County Medical Society, November 2, 1892.



taken 170 grains in 17 hours. Ordered opium, grain one-half every two or three hours according to condition; bromide of potash, grain j every hour; magnesia sulphate one heaped teaspoonful; quinia sulphate, grains two every three hours, and blisters behind the ears.

I also cut off her hair, which was very thick and long and ordered ice to the entire head continually.

At 5 P. M. she was somewhat quieter—head not so hot—no movement of bowels yet—no discharge per vaginam; yet no significance is to be attached to this fact, as the uterus had been *entirely* emptied, and made aseptic by suitable douches, and nothing during the progress of the case gave indication of any trouble from this source.

At 8 P. M. she went into a sound sleep which lasted all night.

22nd. 8.30 A. M. She awoke this morning with consciousness greatly restored; answers questions but has no recollection of the events of the last few days; she realizes loss of hair, also the presence of blisters behind the ears. Pupils are normal in size—face not so flushed—head not so hot—skin slightly moist; no movement of the bowels as yet, even by enemata.

She now entered upon a convalescence which ended in complete recovery.

Now, as to the points of interest.

This woman lost so much blood that she was practically exsanguine. In this anæmic condition, meningeal complications, in the nature of increased vascularity, would scarcely be deemed possible; and would tend to undermine the belief in the efficacy of depletion by vivisection, or other methods of blood-letting, should they occur.

When a school-girl, this patient struck her head while playing in a culvert. Following this injury, for several years she had mild seizures, apparently epileptiform in character. There is no cicatrix, cranial elevation or depression discernible to indicate the seat of injury, yet it may have some bearing on the case.

On the 17th, 18th and 19th, there were repeated attacks of cardiac weakness, with an extremely weak radial pulse; and yet on the 20th and 21st she took 170 grains of chloral hydrate in seventeen hours. The investigators, and men who write books do not strongly impress upon

us the value of chloral as a heart tonic; and the depression of heart and respiration occasioned by it, would, I suppose, have been a contra-indication to its use. Nevertheless, my patient survived, and on April 1, 1892, she had another miscarriage, when the only trouble encountered was headache and sensorial hyperæsthesia, affecting principally sight and hearing.

## Society Reports.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Stated meeting, Nov. 9, 1892.*

[ABSTRACTS.]

Dr. Anna M. Fullerton presented a paper on "Obstetric Surgery, with the Report of a Porro Case."

There is no subject connected with the science of medicine of which the average general practitioner has probably so little knowledge as that of pelvimetry, and the many deviations from the normal condition of things pertaining either to the maternal or foetal economy which serve to render labor a pathological rather than a physiological process. The unquestioning relegation of childbirth to the field of nature by popular opinion curiously exercises its influence upon the professional mind; hence, we find that almost any physician dares to practice midwifery, although he may stand conscientiously aloof from the management of less critical conditions belonging to other specialties, as ophthalmology, otology, laryngology, or general surgery. In face of these facts, it is not surprising that we should have such statistics of maternal mortality as those reported by Dr. John Shaw, obstetric physician to the Northwest London Hospital, in a work written as late as 1890. "Insurance reports show," says Dr. Shaw, "that all of the deaths occurring in women between the ages of nineteen and twenty-nine, over 18 per cent. are due to puerperal causes, and of the deaths registered between the ages of twenty-nine and thirty-nine years, over 13 per cent. arise from the same source; in other words, all the other diseases and accidents to which women are liable at the earlier age, are less than five times as fatal as childbearing, and, at the later period, when the

activity of the function is waning, child-birth is still responsible for nearly a seventh of the total mortality arising from 'all the ills that flesh is heir to.' To these appalling numbers," he continues, "must be added the vast army whose lives are enfeebled and whose usefulness is crippled by some malady dating from the period of maternity." The injunction laid by beneficial associations in this country upon the payment of "sick benefits" to their members when suffering from what they denominate "womb disease," shows that from a business point of view pelvic disorders are far too numerous to make any investment based upon the chances of their occurrence or cure a possible means of gain. Whatever the sum she may have paid into the society, or however ill she may be, a woman suffering from pelvic disorder can claim no aid. This fact points a moral in itself.

Nor is injury to the mother the only disastrous result of ignorance and negligence in the management of labor. Too often, alas! in the subsequent history of the child, should it survive, we find evidences of brain injury: a slow or deficient mental development, actual idiocy, or congenital paralysis—conditions more pitiful than death and more to be dreaded. In an article read before this Society by Dr. J. Madison Taylor last spring, entitled "An Inquiry into the Causes Producing Cerebral Injuries in the Newborn," we have the frequency of such sequelæ referred to as follows: "Those of us who see many cases of nervous disease constantly have our hearts cruelly pained by parents who present children of defective and irreparable minds and bodies whose hurt has come through the process of birth." With regard to his investigations Dr. Taylor states: Questions directed to men of large obstetric experience result in a pretty uniform statement that more harm is done to the cerebrum of the foetus by delays in the second stage of labor than by the use of instruments to expedite it. Neurologists also generally hold this view. In support of this statement he quotes from Dr. Abraham Jacobi and Dr. Egbert H. Grandin, of New York; Dr. Jaggard, of Chicago; Dr. Morton, of Ann Arbor; Dr. Barton Cooke Hirst, Dr. Wharton Sinkler, Dr. Joseph Price, and Dr. Edward P. Davis, of this city. Among those who believe that instrumental injuries ex-

ceed those resulting from prolonged labor he mentions Dr. William Goodell and Dr. George A. Rex, and expresses his own belief that instruments ignorantly and often unnecessarily employed are productive of serious consequences in a large proportion of cases. It is universally conceded that cases of congenital brain trouble do exist, and that the exciting cause may often be traced to an abnormal birth. The investigations of Sachs and Peterson, referred to by Dr. Taylor, show that in a table of 140 cases of paralysis, among 105 hemiplegias, 22 were found to be congenital; of 24 cases of diplegia, 20 were congenital; and so were 7, or possibly 8, of the 11 cases of paraplegia. This table of causes in the congenital cases showed that in 33 per cent. there was some difficulty in labor—simple delay or instrumental delivery.

When we look into causes of difficult or delayed labor, we find that, as a rule, it results from disproportion between the size of the child and the maternal passages, or from want of power on the part of the mother. The difficulties arising from malpresentations and other pathological conditions are closely associated with these.

A very much larger proportion of cases of difficult labor arise from pelvic abnormalities than is generally supposed. The lack of attention to the subject of pelvimetry in this country has led to the belief that American women are comparatively exempt from pelvic abnormalities. The graver grades of deformity are, to be sure, seldom met with; thus, the osteomalacial pelvis is not known in this country. The contractions and deformities due to rickets, however, are not at all uncommon, especially among the colored population. Prof. Anna E. Broomall, whose obstetric experience is probably one of the largest in the country, considers the most common abnormalities, taking the population as a whole, to be as follows: Among American-born women, the simple flat pelvis of the first grade of contraction, the average shortening of the antero-posterior diameter of the inlet being but 1. cm. below normal. The next most frequent cause of trouble she attributes to exaggerated inclination of the pelvis. Among the colored race the generally contracted rachitic pelvis is most common, and the generally contracted flat pelvis the next in frequency. Dr. Edward Rey-

nolds, in his work on *Practical Midwifery*, just issued, states that in a recent analysis of the percentage of contracted pelvis among the native- and foreign-born women of the out-patient department of the Boston Lying-in Hospital, it was found that two out of every hundred American-born women showed some evidences of contraction, though it was usually slight; while among the foreign-born women of the clinic the proportion of deformity reached nearly 6 per cent. My own observations in connection with the maternity work of the Woman's Hospital vary somewhat from these figures, owing perhaps to the fact that we have in Philadelphia a larger proportion of foreigners than are found in the Eastern States. Among 1000 cases of labor of which I have had supervision since my connection with the Hospital about 14 per cent. had contracted pelvis. If we include among abnormal pelvis those of faulty inclination the number reaches fully 20 per cent. Careful measurements are taken of all the cases confined in the maternity wards. The generally contracted pelvis were thus found to almost double the number of simple flat pelvis, owing to the large proportion of negroes and foreign-born patients treated. In the simple flat pelvis the conjugata vera ranged between 8 and 10 cm. In the generally contracted between  $5\frac{1}{2}$  and 10 cm. The average contraction is not of a high grade.

The diversified conditions to which the various species of the human race have been subjected during their development have served to produce peculiarities in structure which have come to be regarded as characteristic. In the most intellectual races the pelvis is found to be most fully developed in area—a difference which must in part be associated with the greater size of the children's heads. The development is greater in the Circassian race, and affects especially the transverse diameter, which is lengthened, and the sacrovertebral angle thrown forward, owing, perhaps, to early burden-bearing, improper dress, and other vices of living. The simple flat pelvis thus results. In the more savage races, as Negroes, Hottentots, Bushmen, and Australian aborigines, not only is the size somewhat less, but the pelvic brim is more rounded because of the relative smallness of the transverse diameter, and thus shows a greater resemblance to the type

of the monkey's pelvis, in which the antero-posterior diameter is greater than the transverse. The angle of the pelvic arch is also generally less. The comparative ease with which labor is accomplished among these nations, notwithstanding the smaller size of the pelvis, is due to the relative smallness in size and greater compressibility of the foetal head. An exceedingly important factor in the labor is thus found to exist in the foetal head. In his *Descent of Man*, Darwin tells us: "The belief that there exists in man some close relation between the size of the brain and the development of the intellectual faculties is supported by the comparison of the skulls of savage and civilized races of ancient and modern people, and by the analogy of the whole vertebrate series." Dr. J. Barnard Davis has found by many careful measurements that the mean internal capacity of the skull in Europeans is 92.3 cubic inches; in Americans, 87.5 cubic inches; in Asiatics, 87.1 cubic inches; and in Australians, only 81.9 cubic inches. Professor Broca found that the nineteenth-century skulls from graves in Paris were larger than those from vaults of the twelfth century, and that the increased size, as ascertained by measurements, was exclusively in the frontal part of the skull—the seat of the intellectual faculties. One element of difficulty in labor, therefore, arises as the inevitable consequence of civilization, particularly when associated with the inactivity and luxurious habits of women of the higher classes—an undue development of the child, with increased ossification of the skull being the result of such habits. It is this resistance of the foetal head, which increases with the age of the mother, that produces a history of increasingly difficult labors in a parturient whose earlier labors may have been perfectly normal. Such a history should at once direct attention to the measurement of the pelvis.

Ahlfeld's rule of determining the duration of pregnancy by obtaining the long diameter of the foetal ovoid, by means of Baudelocque's callipers, one arm of the instrument resting just above the pubic symphysis, and the other over the fundus of the uterus, is that generally employed, especially as an aid to the determination of the period for the induction of premature labor. The measurement thus obtained is supposed to repre-



sent just one-half the length of the child in the extended position. The stage of development of the child may be thus determined, and the probable size of the diameters of its head. This rule is of necessity inaccurate, as the size of the developing child varies considerably in different cases at the same stage of gestation. It serves, however, as a working basis for approximating the size of the foetal head. In the slighter grades of contraction, particularly in the simple flat pelvis, if the head be of normal size and compressibility, the labor may proceed according to the normal mechanism. If the size of the head be disproportionate to the grade of contraction of the pelvis, the mechanism in a flat pelvis is affected by the inability of the head to adapt itself to the inlet in the ordinary way, its efforts to engage in the transverse diameter, the extension of the head thus brought about by the action of the uterine forces combined with the resistance offered at the inlet, until the bi-temporal diameter, being brought into relation with the true conjugate, the head may clear the superior strait. The labor after this progresses rapidly as a rule, particularly in multiparæ, there being no obstruction in the canal. The main peculiarity in the mechanism lies in the long delay of the head at the pelvic brim. Another difficulty offered by this class of pelvis arises from the fixation of the posterior portion of the head upon the promontory; the action of the uterine forces are then brought to bear upon the anterior, freer portion of the head, causing it to dip down into the pelvis. The planes of the head thus lose their normal relation to the planes of the pelvis, and an exaggerated obliquity is produced, which is one of the most common causes of impaction of the head in the pelvis. This obliquity cannot be prevented from occurring, because the fault lies in the pelvis. An attempt may be made to correct it manually, and at times may be successful. More frequently this condition, when recognized, is itself an indication for early extraction, because if left to itself the obliquity will increase, and the condition becomes more unmanageable. It is in the abnormal relations of the head to the pelvis thus brought about that, I believe, the greatest danger arises from the misuse of forceps. When the blades of the forceps are applied obliquely or transversely on the child's head, in-

stead of on its sides, an acute and unequally distributed pressure results, to which, doubtless, many cases of cerebral palsy are due. In the flat rachitic pelvis the reduction in the antero-posterior diameter is greater, hence this type of pelvis is more difficult to manage than the simple flat. The nearer the period of puberty the disease has occurred the greater the deformity produced. There is nothing in the appearance of the patient to call attention to the existence of the simple flat pelvis, unless there be considerable reduction in the antero-posterior diameter, when the abdomen of the gravida will be pendulous, and there will be greater mobility of the uterus because of the absence of fixation of the foetal head at the beginning of labor.

Too great inclination of the pelvis likewise presents an obstruction to the engagement of the presenting part by carrying it beyond the area of the superior strait. Exaggerated obliquity of the foetal head, together with other errors in presentation, position, and variety, are thus brought about. A tedious first stage of labor is the rule. Positional treatment will often enable this difficulty to be overcome without further aid. The accoucheur may assist the engagement of the head by flexing strongly the spinal column upon the pelvis. Manual pressure above the symphysis pubis, by which the presenting part is carried backward and more directly over the inlet, is also often successful in overcoming the difficulty. In the equally contracted pelvis extreme flexion is essential to the engagement of the head, and an actual occipital presentation is thus brought about through long-continued compression. The labor goes on as in normal mechanism, except that there is delay, slow engagement, slow descent, and slow expulsion.

In the generally contracted flat pelvis the mechanism approaches that of the simple flat, but the labor is much prolonged. Engagement occurs in the transverse diameters.

The rate of maternal mortality in contracted pelvis has been estimated at five per cent. and the foetal twenty-one per cent. This probably represents the results when operative procedure is delayed.

The asymmetrical pelvis of this country are the oblique ovate resulting from scoliosis, coxalgia, luxation of hip-joint, other injuries serving to shorten one limb

during the formative period of the pelvis. If the existing obliquity is but slight, the labor may not be affected, the only modification being its lengthening. In high grades of deformity, however, the prognosis is very grave—75 per cent. of the children being lost, according to one authority. The mortality of the mother is represented as about half this. If there be room enough in the pelvis, the induction of premature labor is indicated if the patient be seen in time. Thus, if the antero-posterior diameter of the inlet be 8 cm., labor may be induced about the eighth month. If the diameter is below this, abdominal delivery is indicated. In the management of labor the accoucheur must be observant of the earliest symptoms of exhaustion on the part of mother or child, and prompt in tendering the required assistance before it is too late.

Among the thousand cases of labor occurring in the service of the Woman's Hospital in the past six years, 19 per cent. required operative interference at full term. There were 8 deaths among the women delivered—less than 1 per cent. All but two of these were due to constitutional disease complicating pregnancy. Two sudden deaths occurred—one from shock following rupture of the uterus in a neglected transverse presentation; the other from air in the heart after a delivery, complicated by the pressure of a large fibroid. The foetal mortality was 43-10 per cent. from all causes. In 40 cases in which contracted pelvis existed, labor was induced prematurely without the loss of a single mother or child, and thus the complications which might have resulted at full term were averted. Among the other operations performed were 79 forceps applications at the brim and in the upper portion of the pelvic canal, due to difficulty in descent of the head; 75 forceps applications at the floor of the pelvis for uterine inertia and rigidity of the soft tissues; 11 cases of podalic presentation required assistance in the delivery; and 4 craniotomies were performed, all on dead children. One Cæsarean section, one Porro operation, and one symphyseotomy were also done. Inclusive of the induced labors, the percentage of deliveries requiring artificial aid was 23.

The obstetrical resources for overcoming the mechanical obstacles afforded by moderate degrees of contraction are the induc-

tion of premature labor, craniotomy, forceps, version, and symphyseotomy, or pubeotomy. Undoubtedly the management, *par excellence*, of moderately contracted pelvis is the induction of premature labor; but this necessitates a careful study of the patient's pelvis early in the pregnancy, in order that the time elected for the operation shall be most favorable to mother and child. The advantages of premature delivery to the mother are owing to the diminished head-pressure, hence, the rare occurrence of lesions of the genital canal. The disfavor with which the induction of premature labor has been heretofore regarded has probably been due to the large maternal mortality which attended its earlier performance, and which resulted, doubtless, from the employment of intra-uterine manipulations for its accomplishment and lack of antiseptis. The large foetal mortality was due to insufficient knowledge of the needs of the premature infant and lack of care in its nursing. Spiegelberg gives the maternal mortality as 18.8 per cent., and the foetal as 66 per cent. Among 30 cases in which I induced labor last year, there was no maternal or foetal mortality. It is rarely necessary in this country to perform this operation before the thirty-fourth week for pelvic contraction. The only way of testing the value of induced labor is to compare the results of the latter with those of full-term labors in the same patient. With this view Dohrn reported 19 cases, with 41 children at term—37 of whom died. In 25 subsequent pregnancies in the same cases premature labor was induced, with 15 living children. Milne, in the *Edinburgh Med. Jour.*, vol. xix., reports six women as giving birth at term to 12 children, of which 11 were dead. In the succeeding 38 pregnancies of the same parents premature labor was induced, and 35 children were born living.

The aid of the couvseuse—or hatching-cradle for infants—was very appreciable in the management of the premature infants born in our Maternity; and when, as in France, the use of the apparatus becomes more general, the induction of premature labor will, I believe, stand in higher favor in our own country.

The performance of version and extraction in contracted pelvis exposes both mother and child to perils of no insignifi-

cant character. Borinski, collecting the statistics of version from the Breslau clinic, reports 58 cases in ordinary flattened pelvis, with the result that just one-half the children were born dead. Three of the mothers died of results connected with the operation. In speaking of the high forceps operation, Professor William T. Lusk refers to the collected cases reported by Dr. Harold Williams. Among 119 cases, of the mothers nearly 40 per cent., and of the children over 60 per cent., perished. "So long as the head does not engage at the brim," says, Professor Lusk, "there is no rivalry between version and forceps. The latter should be placed under the ban as hardly less dangerous than the Cæsarean section." Version, however, is not applicable to the generally contracted pelvis; hence, in the revival of symphyseotomy we hope to find a method of procedure which will solve the difficult problem of non-fixation of the head in just such cases, and entirely do away with the barbarous practice of craniotomy on a living child. The operation is still in its probation in this country, but the brilliant results attained in Europe, as reported by Dr. Robert P. Harris, leads us to hope that we have in symphyseotomy an operation by which far less destruction to the maternal tissues shall result than can be claimed for either forceps or version, and by which, also, the injurious effects of pressure upon the foetal head may be averted.

From the histories of reported cases, the chief objection to this operation, which lies in the possibility of non-union of the divided symphysis, would seem to be removed. In the only case of which I have any practical knowledge—that performed by Professor Anna E. Broomall, on October 10th, in our Maternity—the union is apparently perfect. Hubert, in a recent article in the *Archives de Tocologie*, warns us against the separation of the pelvic symphysis in mothers who are too old.

In cases of absolute pelvic contraction, where the conjugata vera falls below 6.5 cm., and in the deformed pelvis in which there is extreme narrowing, delivery by abdominal section is indicated. The two forms of operation usually resorted to are the Säger modification of the classical Cæsarean section and the Porro-Müller amputation of the uterus. Two operations of this class have been

performed in our Maternity wards during the past six years. The first was a Cæsarean section performed by Dr. Anna E. Broomall, on a patient with a generally contracted rhachitic pelvis, the conjugata vera of which measured but 6.5 cm., or a little over two inches. The patient's child-bearing history was as follows: Three children had been prematurely born, all of whom died. Her first labor at term was a forceps delivery; the second, a decapitation; the third, a craniotomy; the fourth, a forceps delivery, the child being lost; the fifth, a Cæsarean section. Both mother and child doing well after the section.

The second case of abdominal delivery was one performed by myself a little more than six weeks ago. The patient was a primipara, aged twenty-four years; four feet eleven inches in height; rhachitic, with marked kypho-scoliosis. Due to an old, unreduced dislocation of the left hip-joint, there was ankylosis with marked lateral obliquity of the pelvis and a beak-shaped pubic symphysis. The conjugata vera was estimated at 7 cm. The patient was admitted to the Maternity wards of the hospital suffering with an acute bronchitis superimposed upon an attack of rheumatism. She was then in the latter part of the eighth month of pregnancy. When she had recovered from her illness, a consultation was held, and it was decided to deliver by abdominal section when the patient was nearer full term.

On September 26th I performed the operation assisted by Dr. Broomall, several other physicians being present by invitation. The nature of the operation had been explained to the patient's friends as well as to herself, and it was left to them to decide as to whether the uterus should be removed or not after delivery. My own feeling was strongly in favor of the uterine amputation, as it seemed to me totally unnecessary to preserve the childbearing function in a woman incapable probably of bearing healthy children, and bearing them, at any rate, at such risk. The parties concerned agreed with me in the matter, and the Porro operation was done. The uterus was lifted out of the abdomen before the uterine incision was made, and the rubber cord applied, as usual, for the control of hæmorrhage. Very little blood was lost. No fluid entered the peritoneal cavity. The child gapsed as soon as delivered and



was soon crying quite vigorously. The uterus contracted firmly as soon as emptied. Before the delivery of the child, hæmorrhage was controlled by Dr. Broomall grasping her hands around the neck of of the uterus; after the delivery the rubber cord which had been placed was tightened. The placenta was delivered and the uterus cut away, after the application of a wire ligature. The stump was secured in the lower angle of the abdominal wound. I strongly desired to follow the method suggested by Dr. Baer, of ligating the uterine arteries and dropping the stump, but not having the same familiarity with this method as with the original one of clamping it, I refrained from running any risk. The mother made an excellent recovery and is perfectly well to-day. The child, a girl weighing six and a half pounds at birth, now weighing nearly nine pounds, and in good condition. The operation was done about a week before full term.

I am indebted to Dr. Harris for some data concerning the Porro operation which I append to this paper.

"The Porro-Cæsarean operation has been performed over four hundred times, since its introduction in 1876, sixteen years ago; and its fatality has gradually decreased up to the present time. If all of the cases were operated upon in good season, and by men of known skill, their fatality of result would no doubt be reduced to a very small percentage. As an evidence of this reduction, I have to state that there were in the year 1888, 29 operations, with 16 deaths, or 55 per cent.; and in 1890, 45, with only 7 deaths—a mortality of 15½ per cent.

"There are three modes of treating the stump, viz: 1st, the original one of clamping it and securing it in the lower angle of the abdominal wound; 2nd, of dropping in the stump, as in many cases of hysterectomy, after ligating the uterine arteries and suturing the peritoneum over the cut cervix; and, 3rd, of securing the stump prepared the same way, by stitching it into lower angle of the wound, peritoneum to peritoneum. The original method has the least risk, particularly when the subject is not in labor, or has been for a very short time. Many women were lost in the early days of dropping in the stump, as many as 13 having died out of the first 18; but in the perfecting of the method, 17 have been saved out of 20, a mortality of 15 per

cent. This is the ideal operation with several skillful men who have had very good results, and it leaves the woman with a free abdominal wall and abundant space for bladder expansion after her recovery.

"The Porro operations of our own country have been largely confined to cases of obstruction by tumors, as operators have usually preferred the improved Cæsarean section in those of pelvic deformity for two reasons: 1st, the fatality has been much less here; and, 2nd, almost all of the patients are married women, and operators do not think proper to destroy their internal organs of generation. In the last six years there have been 18 Porro operations with 12 recoveries in the United States (against 63 improved Cæsarean operations with 43 recoveries), 1 only having died out of the last 12, and this woman had been seven days in labor; and had a placenta prævia. Of the last 12 Porro cases, 2 died: 1 was in a favorable condition prior to the operation, and the other was already septic. Both operations appear to be reaching a much lower measure of fatality, their result depending more upon the condition of the woman at the time of the operation than on the choice of method. In European maternities in a large number of operations, that of Säger has the advantage in their final results."

Dr. Mary Putnam Jacobi, of New York City, read a paper on "Urethral Irritation."

The causes of vesical and urethral irritation in women are both numerous and diverse. Gynæcologists constantly refer to the irritation which accompanies uterine lesions—either inflammations or displacements. Dr. Howard A. Kelly has called attention to the tenesmus and frequent micturition which may be excited by lesions of the ureters, and such tenesmus may, for a certain time, be the most salient symptom of a renal calculus. On the other hand, the distinguished Philadelphia gynæcologist, Dr. Wm. Goodell, has truly said, that "A nervous bladder is one of the earliest symptoms of a nervous brain; for nervousness means a deficient control of the higher nerve centers over the lower ones; the vesical irritability indicates a lack of brain-control." The following case excellently illustrates this remark:

It was that of an unmarried woman, about twenty-five years old, of a highly

nervous temperament. A year previous to consultation she had, together with a sister, opened an office for type-writing. The business responsibility was unfamiliar, the work often heavy, and the patient had become anxious, worried and excited over it. She did not, however, complain of but one symptom, namely, a frequent vesical tenesmus, recurring night and day. The passage of urine was free, but preceded and followed by an unbearable distress, apparently situated in the neck of the bladder. The urine was entirely normal in every respect, free from albumin, sugar, oxalates, or other sediment, inorganic or organic. The urethra was normal, and the bladder could be explored by the sound without causing any pain. There was no uterine disease. I should add that there were no definite hysterical symptoms, unless the irritability of the bladder be reckoned as hysterical. The patient was entirely cured by local faradization—one electrode being placed over the lumbar spine, the other over the bladder. A few applications were first made at my office, and immediately followed by diminution in the irritability of the bladder, and in the tenesmus. Then the patient procured a faradic battery for herself, and applied the current for about twenty minutes every night. Relief was speedily obtained, and a complete cure effected in a few weeks.

My recollection of the details of this case is incomplete, as it was observed by me a good many years ago, and I have not full notes. If the frequent and spasmodic contraction of the bladder be due to an over-excitation of the nerve centers of the lumbar spinal cord, and if this over-excitation be due to loss of cerebral inhibition, it is difficult to understand why the local application of the stimulating form of the electric current should have had so positively curative an effect. The explanation may be approximately referred to the general action of faradic electricity on hysterical peripheric neuroses—action which may almost be called specific—since it is exerted with success in all three forms, namely, hysterical paralysis, hysterical cramps, and hysterical paresthesias.

Another case was that of a markedly hysterical woman, aged fifty years, and who had passed the menopause, but who was subject to profound analgesia of the

lower extremities, so that a pin could be plunged into the flesh and buried to its head without causing the least pain. This patient was subject occasionally to acute attacks of vesical irritability, associated with great general nervousness and depression of spirits. Such an attack was promptly dissipated by the injection into the bladder of two grains of cocaine dissolved in an ounce of water.

A third case was chiefly remarkable for the long duration of a single symptom, for the limited extent of its causal lesion, and for the final success of the treatment. The patient was a West Indian creole lady, between fifty and sixty years old, a widow, who had never had any children, and had never suffered any uterine disease. She was remarkably short, had an old-standing lumbar scoliosis, and suffered often from the muscular pains of lithæmic indigestion. She consulted me for an annoying and constant sense of pressure at the bladder, or rather more externally, at the urethra, attended with a moderate frequency of micturition, but no alteration of the urine. Just before and after micturition the sense of pressure increased and became more painful. Fifteen years previous, to relieve this same symptom, the urethra had been forcibly dilated by Dr. Marion Sims, but the patient insisted that she had not been at all benefited by the operation.

No spasm and but little pain was caused by the introduction of the catheter; and dilatation of the urethra with an ordinary urethral speculum failed to reveal anything abnormal. I tried several plans of treatment upon the case, which were all quite unsuccessful, and the patient finally ceased attendance. About five years later, very much to my surprise, she returned with exactly the same complaint. On this occasion, thinking that this peculiar and limited morbid sensation might be a pure neurosis, I applied faradic electricity by means of a double electrode inserted into the urethra and just within the bladder. This treatment at once greatly relieved the patient, and the relief persisted for twenty-four hours, when the distress returned. Repetition of the local electrization had the same effect, and the patient was so much more improved by this treatment than by any other which had been tried, that she persisted in it for several weeks. By that time she considered her-

self very decidedly improved, but not yet well. I had then an endoscopic examination made, and it was found that the mucous membrane of the bladder immediately surrounding the urethral orifice was swollen into a ring. The surface of the ring was moderately reddened. It seemed as if this protruding localized hypertrophy of the vesical mucosa had formed during efforts at bladder expulsion made in former years against some obstruction—very possibly a spasmodic contraction of the neck of the bladder in consequence of a fissure. The faradic electricity had relieved by determining retraction of the submucous cellular tissue. It seemed probable that the local application of a strong astringent would effect a more permanent shrinkage of the swollen mucosa. Accordingly, applications were made of solution of nitrate of silver—five grains to the ounce—by means of an instrument that permitted the application to be made exclusively to the affected locality. The result was immediately beneficial, and a few similar applications, made twice a week, succeeded in entirely curing this troublesome symptom, which had been annoying the patient for twenty years.

My fourth case seems to me of unusual interest, both on account of its medical history and of the physiological doctrine it illustrates. The patient is a woman of thirty-five years of age, who for many years had been overworked and underpaid in responsible business employments. Eight years ago her health began to fail, and in particular she began to suffer from two symptoms—severe spasmodic dysmenorrhœa and a distressing, burning sensation at the urethra. This was at first said to be constant, but inquiry showed that the patient suffered little from it while lying in bed, but intolerably if she attempted to walk, so that she soon became unable to walk a block or two. She consulted a prominent gynecologist, who treated her locally for three months, then advised her to enter the Woman's Hospital. She remained for some time in one service, and at length the surgeon declared that he could do nothing more for her unless she would submit to the operation of an artificial vesico-vaginal fistula. Refusing this, she entered another service in the same hospital, and here Emmet's button hole operation on the urethra was proposed and performed. The patient, how-

ever, did not benefit in the least from these various manipulations, but rather grew steadily worse. According to her statement the most careful exploration was repeatedly made for any pelvic lesion adjacent to the bladder which could explain the persistent distress, but nothing definite was ever found.

After ten months' of residence at the hospital the patient left it, rather worse than when she entered. She then went to England and consulted Dr. Keith, who, after a careful examination, advised her to desist from all further treatment. She followed this advice, and attempted to resume work, but her strength continued to deteriorate, and she finally was compelled to give up her work again, and remained a wretched invalid.

When the patient consulted me she was a thin, pale, anæmic woman, quiet and rather slow of speech—rather unusually free from the excitability and mobility which so often characterizes hysterical patients. Examination of her blood found 70 per cent. of hæmoglobin, and 1,960,000 blood corpuscles to the cubic millimetre. There was a continuous hum at the jugular.

The patellar tendon reflexes were normal. The subjective symptoms were: a constant sense of fatigue, mental and physical, rendering all exertion impossible; this associated with a sense of mental confusion and imperfect memory; distress, rather than pain, in the back of the head; profuse sweating at night; tenderness on pressure on Charcot's point, but on the right side; the skin over the hypogastrium and thighs moderately hyperæsthetic to touch, and extremely so to faradic electricity. There was a constant burning pain at the urethra, not at all aggravated by micturition, but greatly by walking. A distance of one or two blocks could be traversed with comparative ease, but then the burning pain became intense, a bearing-down sensation in hips and hypogastrium was added, and a heaviness extending down the thighs.

At menstruation the patient suffered intensely for several days, but during the pre-menstrual week she usually felt pretty well, at all events much better than at any other time. This fact contrasted emphatically with the pre-menstrual pains which almost invariably characterize ovarian disease. Again, micturition was neither



painful nor frequent, and was unaccompanied by tenesmus. A local examination found the uterus perfectly healthy; nothing abnormal discoverable in the pelvis except tenderness upon pressure in the region of the left ovary. The latter, however, was not sufficiently accessible to be exactly defined.

The urethra remained deformed by the partial failure of the union attempted after the button-hole operation. A catheter passed into the bladder caused no pain until it reached the neck of the bladder, then a spasm occurred, moderate in intensity but causing great pain. The spasm was easily overcome, and within the bladder the instrument caused no pain. The urine was normal in every respect. The patient had discovered for herself that the ingestion of large quantities of hot water—increasing the quantity of urine—diminished somewhat the urethral paresthesia. If for any reason the urine became scanty, the burning became intense. The negative result of the local examination was entirely in accordance with that of the repeated explorations which had already been made by distinguished surgeons. In view of it, and of all the circumstances of the case, I myself made the diagnosis of a severe cerebro-spinal neurasthenia, of which the urethral burning, the ovaralgia, and the dysmenorrhœa were concomitant symptoms. They were, so I argued, symptoms projected on the periphery from a brain so badly nourished as to be the prey of sensory hallucinations, generated in its lower visceral centres. The history of the case seemed to indicate that local manipulation of the bladder tended to increase, rather than diminish, the subjective hyperæsthesia. The aggravation of the paresthesia by walking, the relief afforded by recumbency, seemed to me to depend on the facile exhaustion of the centres in the lumbar cord, with their double relations to the innervation of locomotion, and to that of the pelvic viscera. It did not, as evidently had been supposed, argue a coarse lesion of these viscera, which might be aggravated by pressure; rather a vasomotor neurosis due to loss of spinal control when the lumbar cord centres became exhausted.

In a very large number of cases of cerebro-spinal neurasthenias, with irritative symptoms, depend upon lithæmia, or, more precisely, upon defects in the

hepatic digestion of albuminous foods.

Reasoning most plausibly, though from too few experimental data, Haig has argued that many irritative or explosive symptoms in lithæmic cases depend on a saturation of the nervous tissues with uric acid; that the nerve explosions of migraine, and also of epilepsy, are correlated with a uric acid wave, as uræmic eclampsia is believed to depend on the surcharge of the brain tissues with excrementitious substances.

Herter, of New York (*N. Y. Med. Journal*, 1892), in a recent essay, calls attention to the numerous putrefactive products of nitrogenous foods, which form in the intestine when digestion of such foods is imperfect. Estimating these putrefactive products by the ethereal sulphates which appear in the urine, Herter has studied their relation to epileptic attacks, and believes to have found some degree of correlation between the formation of such substances and the convulsive seizures, and at any rate an abnormal degree of intestinal putrefaction in epileptic neurotics. These recent researches tend to focus and accentuate the conviction which many observant physicians must have formed, that the irritative phenomena of neurasthenic conditions are probably traceable to the immediate action on nerve centres of toxic substances circulating in the blood.

It is known that the forms of neurasthenia which are characterized by mere simple debility, are often wonderfully benefited by an excessive meat diet. This determines an excess of nitrogenous metabolism which, when well borne, is a most powerful stimulant to the nutritive processes of nerve centres. In irritative neurasthenias, however, the milk diet is often far better tolerated, and the explanation is probably to be found in the fact that on such diet the various perversions of nitrogenous metabolism are reduced to a minimum.

In the case in question I resolved to experiment with both diets, and began with the meat, intending to administer a pound and a half a day. However, in the first two days the patient only succeeded in taking three-quarters of a pound a day, and on the third came to me in a very curious condition. Her habitual air of quiet depression had changed to great restlessness. Her respirations were 28, somewhat panting; her pulse 120, feeble, the

sphygmograph showing a marked respiratory curve. Her mouth was parched, she felt feverish, but, though she had continued to drink a great deal of hot water, the urine had become scanty and high-colored, and the urethral burning was intense. She had been unable to sleep the previous night, was nauseated, and had contracted an intense repugnance to even the thought of animal food. In spite of the restlessness the patient was drowsy. This condition, produced as promptly and distinctly as if in a laboratory experiment, suggested several explanations, and, unfortunately, there was no opportunity to analyze the urine in such a way as might aid in the choice between them. Thus there was the possibility of a uric acid saturation of the nerve centres, an improbable theory, as the symptoms were quite different from those habitually associated with uric acid excess or retention.

The drowsiness especially suggested that peptones, sufficiently modified in the liver, had passed almost unchanged into the circulation, as in Lauder Brunton's experiment.

From a third point of view, the imperfect digestion of the meat had resulted in abnormal putrefaction in the intestine with generation of toxic substances, which, passing into the blood, had occasioned the entire cortège of pseudo-febrile symptoms. This, on the whole, seemed the most plausible hypothesis.

The most important practical fact was the great aggravation of the urethral burning or paræsthesia under these circumstances, which certainly tended to confirm my hypothesis of its origin in constitutional conditions. The diet was changed to one exclusively of milk, three quarts a day. Two days later the patient returned, seeming a different person. The restlessness, hurried respiration, and nausea were gone; the pulse dropped to 84, the urethral burning and ovaralgia disappeared, the patient feeling for the time quite comfortable.

The case is still under observation and the symptoms oscillate, although with, on the whole, a steady improvement in the condition of the patient. She is kept in bed the greater part of the day, on a diet of milk, baked apples, and a little rice; takes a steam leg-bath followed by cold sponging, minute doses of iron with maltine. Sleep is greatly improved, the mental depression lessened, the urethral burn-

ing reduced to a minimum, only occasionally aggravated; such an aggravation occurred on a cold, damp day, but on the next, a bright and clear day, the patient again felt a great deal better. Nevertheless, she was suffering rather more than usual from the occipital pain. This latter was entirely dissipated by an application of static electricity below the occiput. The same application was then made along the spinal column, and although for two minutes the patient was greatly fatigued, she then experienced an agreeable warm glow and sensation of prickling all over her body; and coincidentally, what degree of urethral distress and ovaralgia was for the moment persisting, entirely disappeared.

Throughout that day and the next these two symptoms remained entirely absent, but the occipital headache returned on the second day, to again disappear on the third.

The absence of local pelvic lesions in this case might seem to render it inappropriate for presentation at this meeting. But I have thought it interesting because the existence of local symptoms seems to have been sufficient to convince so many distinguished physicians that such lesions must exist, even though they failed to discover them. Yet it is a general law for sensory symptoms that any one may be due to one of three conditions: There may be a structural lesion at the point to which the sensation is referred. There may be a lesion at a distant or adjacent point from which nerve irritation is irradiated to the point of sensation. Finally, there may be a functional disturbance of the brain nowise representing the part, which disturbance is expressed by the morbid sensation referred to the periphery. On this account there should not have been any difficulty in regarding this urethral symptom as an expression of central nervous disturbance, from the moment that careful examination had failed to detect any local lesion of the bladder, urethra, or adjacent pelvic organs. Yet the presumption in regard to such lesions was so great, that when they were not found, they were almost invented; and when prolonged surgical treatment only left the patient in a worse condition than at first, she was given up as incurable, because her parts refused to adjust themselves to a preconceived erroneous theory.

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**THE MEDICAL AND SURGICAL REPORTER.**

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SATURDAY NOVEMBER, 28TH, 1892.

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**THE FUNCTIONS OF THE PERITONEUM.**

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Evidently the medical profession does not appreciate the importance of the peritoneum as a physiological factor in the human economy.

The idea prevails generally that this membrane serves merely as a lining for the abdominal cavity and an external covering for the vital organs within it; and that its complex folds and attachments are merely ingenious mechanical arrangements for supporting the various organs it covers. This is the anatomical view. Physiologists have failed to study its functions as thoroughly as those of other organs of the body, apparently satisfied with the anatomical view of the membrane and regarding its peculiar formation and arrangement, otherwise inexplicable, as

the remains of something useful in lower forms of life, but of which the evolution of man has not as yet removed all traces. This, in spite of the persistent and invariable occurrence of these "traces" in the entire human race, and it was not until modern abdominal surgery forced an explanation of phenomena, that the peritoneum was recognized as being glandular in structure and function. This was some advance but does not explain all things.

Pathologically speaking, the entire profession is well aware of the enormous fatality of the diseases of the peritoneum, and it is only very recently that abdominal surgery has shown that peritonitis is not necessarily death. Ignorance on the subject certainly obtains when a prominent physician states before the Royal College of Physicians of London, that "the peritoneal structure has functions no doubt, but they are so unimportant or so obscure, that, however much they are disordered or suspended, no signs peculiar to the consequent disease can be discovered." Holding these views he is right in saying he cannot say "anything new to such an audience." If the views of his hearers are no further advanced that his own, it would seem a waste of time to recall to them facts, forgetting of which was a benefit. Doubtless his views can be considered conservative, as most of his study on the subject was evidently done in the mortuary.

His methods of study differ in every respect from those of an abdominal surgeon who has done as much as any to dissipate the unreasonable fear of touching the peritoneum and its contents. As a physiologist, Mr. Lawson Tait, does not have the pre-eminence he does as a surgeon, but the same characteristics that placed him at the head of abdominal surgery in Great Britain—the utter lack of reverence for professional idols; the prompt discarding of theories that would not fit conditions; the determination to exercise common sense in the study of his own material and to arrange and formulate his observations and draw conclusions.



clusions in accord with facts; his frankness in acknowledging and correcting his own errors as he discovers them; and the enormous field of observation he has enjoyed—these characteristics require at least thoughtful consideration of any subject for which he is willing to be responsible.

Whether the deductions Mr. Tait has drawn from his own observation and experience—and his observations are made upon the living subject, not the cadaver, shall eventually be established wholly or in part, or whether further investigation shall show them utterly false, matters little. In furnishing a tenable, concrete working theory, he has done more than all that have gone before to advance the knowledge of what is, as he claims, an organ whose vital importance is second only to that of the brain. In a paper read before the Harveian Society of London, Mr. Tait re-presents in a collated form the observations published from time to time during a number of years preceding. The conclusions he arrives at are that the peritoneum has a glandular function "as all the great organs which are regarded as having functions preparatory to and essential to the general nutrition of the body, and most of these regarded as excretory, have this curiously-involved relation to this mysterious and complex membrane, with the doubtful exception of the pancreas. Further, the membrane itself has a series of strange and invariable plications and redundancies of surfaces, the omenta, mesenteries, and various appendices which, should its function be that of active secretion or absorption, clearly must be of great service. Then, finally, its surface everywhere is excessively vascular, hyperæmic, as it were; its minute anatomy shows abundant arrangement of stomata, like those on the leaves of a tree, eminently suggestive of active work of some kind. It is most profusely supplied by nerves which are not derived from the motor tract. Normally these

nerves convey no sensation, and therefore it may be assumed that they are nerves for controlling or directing some special function."

In addition he said, "I have to point out that one great anatomical fact concerning the peritoneum has had, so far as I can discover, no kind of importance attached to it in its pathological consideration; in fact, it is not alluded to at all save in the anatomical text-books. It is that all the organs actively engaged in the primary preparation of the systemic nutrients are not only enclosed in the peritoneum, but all the blood gathered from these great organs is collected by a series of minute venous radicles exposed voluminously and immediately under the peritoneal epithelium to any influences which may arise in it. In addition to this, the whole of the blood prepared in or by these organs is mixed together in the portal vein and carried into the liver, where it undergoes its final change previous to the oxidation which seems essential for tissue nutrition everywhere.

In regard to the omentum he suggests "that it is the arbiter of the intra-peritoneal currents, there being an ebb and flow in the peritoneum. The great serous sac holds in it, like a dressing bag, a great mass of serous covered organs which may, any and all of them, secrete into its cavity, or absorb from it. Possibly they may carry out one process at one time and the other at another. The omentum, I think, does so certainly."

He believes that the cause of death in peritonitis is a "disturbance of the ebb and flow of the serum stream of the peritoneum and the disturbance of the function of the liver. In fact, the liver is the lethal organ in peritonitis." This is a very brief and incomplete statement of Mr. Tait's theory of the principal functions of the peritoneum and it furnishes a starting point for thorough investigation.

## Translations.\*

MARIE B. WERNER, M. D.

PHILADELPHIA, PA.

A. Bier, (*Archiv. f. Klinisch. Chirurg.*, *bd.*, 43) describes an operation for the removal of bony sequestræ under the name of Osteoplastic Nekrotomie. This operation is, in the author's mind, especially adapted to necrosis of the tibia. His method of operation is as follows: He makes a transverse incision through skin down to and through the periosteum corresponding to the tuberosities of the tibia, beginning in the middle and extending to its inner surface. As soon as he has reached the crest of the tibia he leaves the periosteum, but extending the incision one finger's-breadth beyond the crest through the soft parts only. A similar transverse incision is made two fingers above the ankle-joint. The inner ends of these incisions are united by a long incision, which extends down to the bone; at the point where the transverse incisions leave the crest, he splits the fascia transversely, the soft parts of the inner surface are pushed aside and half the thickness of the bone and periosteum of the inner tibial surface is split; a small saw is introduced through this cut and the bone sawed half through at the transverse incisions, the bone is then split in its long diameter with a chisel and lifted back—thus the tibia resembles a coffin with its lid thrown back, the sequestræ are of easy access the granulations and degenerated bone tissue can be removed with a sharp spoon; the various bone fistulæ treated (*irridirt*). After careful disinfection the flap is replaced, the soft parts united with sutures; or the cavity may be tamponed temporarily the wound being sutured secondarily.

The cavity remaining in the bone always fills with blood, especially if the tampons are not used—subsequent history usually shows that moderate suppuration is unavoidable. An attempt to use *Senn's* decalcified bone plates proved unsuccessful since they were usually discharged, often months after the operation.

Osteoplastic Necrotomie was performed thirteen times—eight on the tibia—one on the pelvis—one on the ulna, three on femur. The author, however, has con-

cluded not to perform the operation on the femur again since he has found those bones nearer the surface more adapted for it.

In comparing results with the *Esmarch-Riedel* method in which more of the bony tissue is removed, leaving but a shallow cavity, into which the soft parts and skin are readily caught, or that of *Neuber*, which fastens the soft parts and skin into the bony cavity by means of sutures and nails; B. feels that these can only be used in cases where the disease is some distance from the epiphyses, and since they destroy so much of the bony tissue that they are less conservative and physiological than Osteoplastic Nekrotomie, this latter preserving more of the original bony contour, and at the time of operation permitting a radical removal of all diseased tissues. The time of healing also compares favorably with other radical operations—two—three months.

H. Kümmel (*Centrab. f. Chirurg.*, No. 42, 1892) reports three cases of retroflexed uterus which he corrected by operation in the following manner: He passes three sutures through the fundus, one of which he also passed through the periosteum of the symphysis the two lateral fortifying this in being placed so as to keep the uterus in immediate contact with the symphysis. K. regards this as an improvement on ventro-fixation, since union to the periosteum will be less apt to give than that to abdominal walls; but he also cautions that there may be some danger of the point of the needle breaking in the bone in taking the periosteal stitch.

One case upon whom he had performed this operation was confined 1½ years later. Labor was normal, six weeks after an examination showed the uterus still occupying its anterior position.

The other cases seemed to be doing well, respectively, 1½ and two years after operation.

Messner, of Wiesbaden, (*Centrab. f. Chir.*, 1892, No. 44) presents an interesting study in Asymmetry of the Thorax and contractions of the vertebral column following infantile paralysis. As an incentive to his studies he cites the case of a girl of 12 years, presenting marked scoliosis in the dorsal region and pronounced lordosis of the lumbar region;

\* Translated for MED. AND SURG. REPORTER.

there is also a lack of development of the entire right side of the thorax, the defective condition extending upward to the right half of face and head; the arm and leg of same side are slightly atrophied. No absolute paralysis is present, though response to electrical stimulus is slow on the affected side. By extension the vertebral column can be entirely straightened. The early history of the child is interesting. She was well developed and healthy at birth; at nine months had convulsions, followed by some paralysis of the entire right side—this was, however, transient since she learned to walk at 18 months; there was no history of rachitis; and it was not until she was 7 years old that the parents noticed any deformity. A systematic course of treatment was not taken, and the disease was allowed to gain considerable headway. This case induced the author to study the early symptoms of scoliosis, especially in relation to infantile paralysis. An analysis of 156 cases of scoliosis showed that 8 had an unmistakable history of infantile paralysis. This group of cases is designated by Messner as Paralytic Scoliosis, and is distinguished from the rachitic form by the late or entire absence of fixation, whereas in the rachitic form fixation takes place early. This was ably demonstrated in the case reported, in that, there was no ankylosis or torsion of the vertebræ. Another noteworthy point was that the convexity of the cervix was always in the direction of the healthy side, while the paralyzed or paretic muscles were found on the concave side; this was of uniform occurrence in 7 of the 8 cases studied; the eighth being somewhat further advanced in paralysis. The electrical muscular tests were found to be of value in diagnosis, and sensation was not markedly impaired. The prognosis of this form of scoliosis is more favorable than that of rachitic origin. The author does not deny that there may be some advanced cases in which a cure would be out of the question.

Treatment consists in the use of electricity, cold sponge baths, and moderate massage.

In addition two indications must be met: 1. Support for the spinal column, this is accomplished by a properly adjusted corset. 2. Development of the muscles of the back, by gymnastics, massage, electricity, douches and out-door exercises.

Of the 8 cases, 3 recovered completely, 4 were markedly improved; and although the 8th case was too far advanced to promise much, the author succeeded in placing the child on its feet after adjusting a plaster jacket, and extending from this a support for the hip joint.

Terillon, reports, in his eighth series, 35 ovariectomies with one death 16 days after operation, due to chronic uræmia—both kidneys atrophic and sclerosed. He prefers asepsis to antisepsis. His experience after dropping the pedicle in cases where more than one ligature is necessary, in a thick pedicle, has been that up to the 25th or 30th day after operation convalescence progressed normally, after this time, however, there was fever accompanied by pain in the location of the stump, and examination showed a diffuse, painful swelling in the pelvis extending upward into the abdomen; the appetite was poor, and the patient became emaciated. After 2 or 3 months these symptoms gradually subsided and complete recovery took place. Suppuration or discharge of the ligature was never noticed. Terillon had this experience with 4 cases of this series, but is unable to explain the cause of evident inflammation. He feels that he can rule out infection, and thinks it may possibly be due to mortification (?) of the pedicle.

A. Brenner, contributes to the technique of gastro-enterostomy (*Wein. Klin. Woch.* 1892) two cases of inoperable carcinoma of the pylorus, in which he found it necessary to perform gastro-enterostomy. His method was the following: After making the incision he passed the right hand behind the colon in the region of the flexura-duodeno-jejunalis, pushing forward the great curvature of the mesocolon, and with this the ligamentum gastro-colicum; he then sutured these together with silk sutures, selecting a point in which there were present blood vessels. Making a vertical incision, between sutures he drew through it the upper loop of the jejunum. He united this loop of the jejunum with the anterior wall of the stomach, immediately above its greater curvature. The intestinal loops lay in their normal position while the transverse colon with its ligamentum gastro-colicum was freely movable since the latter was situated close to the greater curvature.



One patient survived the operation, but died two months later, of carcinomatous cachexia, the second died 20 hours after the operation. This method recommends itself by the ease by which it can be performed.

## Periscope.

### THERAPEUTICS.

#### EFFECTS OF MEDICATED INHALATIONS.

Dr. A. Irsai, of Buda-Pesth, (*Lancet*), has made some instructive laboratory observations on the effects of the inhalations of various substances on the lungs and air-passages. Inhalation of air impregnated with the vapor of oleum terebinthinæ produced distinct pallor of the lung tissue, due, doubtless, to spasmodic contraction of the pulmonary capillaries. Oleum juniperi and oleum pini sylvestris produced similar results, but less in degree. Oleum eucalypti, oleum anisi, oleum menthæ and menthol, similarly inhaled, produced scarcely any change in the color of the lung-tissue. Creosote, thymol, and in a still greater degree guaiacol, produced redness, with great hyperæmia of the lungs. From these observations Dr. Irsai concludes that in acute catarrhal affections, with swelling, hyperæmia, and profuse secretions, those substances which produce anæmia of the lungs should be chosen, while in chronic torpid conditions, or in phthisis, where the supply of blood and the nutrition of portions of the lung are defective, substances which induce hyperæmia should be used. With any tendency to hæmorrhage creosote or guaiacol may prove dangerous.—*International Medical Magazine*.

#### SOMNAL.

Dr. Memmo (*La Riforma Medica*, No. 100, 1892) has given somnal in fifty-three cases seventy-five times, administering it in a syrup of oranges or peppermint:

|          |                            |          |
|----------|----------------------------|----------|
| <b>R</b> | Syrup of peppermint, q. s. |          |
|          | Aque destillatæ.....       | gms. 100 |
|          | (3ijss).                   |          |
|          | Somnal.....                | gms. 2-5 |
|          | gtts. xxx-3jss).           |          |

Given to patients in the morning it produces a calm and restful day. When administered towards evening it quiets mental over-excitement (as in mania), alcoholic

excitement and other psychoses, producing on an average a sleep of four to six hours' duration. No disturbance either of the digestive, circulatory or respiratory systems were observed, hence the remedy may be considered as innocuous. In many cases it was better tolerated than chloral, and in some better than sulfonal or tetranal. In women it exerts the same action, contrary to the assertions of Umpfenbach. It is very useful in insomnia due to hysteria, tuberculosis, and heart diseases in which there are no contra-indications. It was also of service where all the hypnotics, as chloral, sulfonal and morphine, had been given without success. Only in rare cases was there observed, in the morning, a headache or vomiting—a very rare circumstance.—*Cincinnati Lancet-Clinic*.

#### POPULAR DELUSIONS ABOUT TONICS.

The *Boston Journal of Health* sounds the following warning on this subject which it would be well to heed:

Probably for no other class of remedies is there so great a demand as for those tonics that are commonly called appetizers. These are all more or less bitter, and are considered incapable of harm. As generally used, however, they do far more harm than good. They excite a feeling of hunger, it is true, but unless the doses are smaller than the layman unadvised is likely to take, they are sure not only to retard digestion, but to irritate the stomach and more or less upset the organs intimately associated with it.

He who feels that he needs an appetizer in the form of medicine, instead of buying tinctures, extracts, or other prepared solutions, will do well to obtain of a druggist one ounce of the dried herb, thoroughwort. This should be put in a pint of boiling water, allowed to stand for two hours, and then strained. After which it should be stored in an ice chest, or other cool place. The dose is two tablespoonfuls three or four times a day. Thoroughwort is one of the best of the simple bitters, and has a mild tonic effect, especially in dyspepsia and general debility.

The prepared drugs that are most often used as appetizers are the tinctures of gentian and Colombo. These are generally combined, and to them is frequently added the syrup of ginger. Such preparations

are almost always taken in much too large doses, and instead of improving digestion they really impair its powers. Compared with thoroughwort their cost is very much greater; yet the herb tea has a better effect and when taken as advised is incapable of harm.

Of so-called strengthening tonics, quinine or some form of iron is generally resorted to by laymen. In certain conditions of the system these agents act well; but, without doubt, in nine cases out of ten in which they are used they are not needed; and not infrequently they do harm. It is a positive fact that there is not a single tonic in the way of medicines that a person could safely and wisely take unadvised, did he seek to recover lost strength.

Nor is there a tonic known to physicians that is likely to prove strengthening in a very large proportion of cases of debility. There are a variety of drugs that will stimulate and give a healthier tone to certain parts of the system, and, perhaps to the entire system, but as a rule they are very powerful, and a person who has not an intimate knowledge of them, their nature and effects, would be sure to injure, if not kill himself, were he to trifle with them. These agents only do in selected cases. Strychnia, for instance, might do one patient good, while another, presenting to the uninformed much the same symptoms, would be made much worse by it. The simplest of all the strengthening tonics is iron, and yet, contrary to the popular idea, this can only be used in a small proportion of cases of debility.

In a word, those persons who seek to regain lost strength by means of tonics, and without medical advice, must rely upon good, wholesome food, pure air, and judicious exercise; because, were they to trifle with drugs, not only would they gain nothing by it, but would be sure to do themselves very great harm, although by the way, they might not at the time recognize the harmful effects of the experiments.—*American Analyst.*

#### TREATMENT OF DIPHTHERIA.

Kohts and Asch report a large number of cures from the use of papoid in diphtheria. The former has treated several hundred cases with great success by the following method: Ten grains of the papoid are dis-

solved in half an ounce of water. This solution is painted on the diphtheritic membrane every fifteen or twenty minutes with a soft brush. The membrane disappears rapidly.—*National Med. Review.*

#### ANTIDOTES FOR POISONS.

##### USEFUL HINTS TO GIVE PATIENTS FOR EMERGENCIES.

In cases where the other articles to be used as antidotes are not in the house, give two tablespoonfuls made mustard in a pint of warm water. Also give large draughts of warm milk or water mixed with oil, butter, or lard. If possible, give as follows:

|   |   |
|---|---|
| For Bed-Bug Poison<br>Corrosive Sublimate,<br>Blue Vitriol,<br>Lead Water,<br>Saltpetre,<br>Sugar of Lead,<br>Sulphate of Zinc<br>Red Precipitate,<br>Vermillion, | Give milk or white of eggs,<br>large quantities.  |
| For Fowler's Solution,<br>White Precipitate,<br>Arsenic,  | Give prompt emetic of mustard and salt, tablespoon of each; follow with sweet oil, butter, or milk.   |
| For Antimonial Wine,<br>Tartar Emetic,  | Drink warm water to encourage vomiting. If vomiting does not stop, give a grain of opium in water.    |
| For Oil Vitriol,<br>Aqua Fortis,<br>Bi-carbonate Potassa<br>Muriatic Acid,<br>Oxalic Acid.  | Magnesia or soap dissolved in water, every two minutes.   |
| For Caustic Soda,<br>Caustic Potash,<br>Volatile Alkali,  | Drink freely of water with vinegar or lemon juice in it.  |
| For Carbolic Acid,  | Give flour and water or glutinous drinks.   |
| For Chloral Hydrate,<br>Chloroform,   | Pour cold water over the head and face, with artificial respiration, galvanic battery.                |
| For Carbonate of Soda,<br>Copperas,<br>Cobalt,  | Prompt emetics; soap or mucilaginous drinks.  |
| For Laudanum,<br>Morphine,<br>Opium,  | Strong coffee followed by ground mustard or grease in warm water to produce vomiting. Keep in motion. |
| For Nitrate of Silver,  | Give common salt in water.  |
| For Strichnine,<br>Tinct. Nux Vomica,   | Emetic of mustard or sulphate of zinc, aided by warm water.   |

#### BEEF JUICE.

Where it is necessary to give an invalid just the juice of beef, broil say a half pound for just a moment over a quick fire, then score it thoroughly, put it in a lemon squeezer, and press the juice into a cup, add a grain of salt, stand the cup in hot water for a moment until the juice is warm and use it immediately. This is more tasty and appetizing than beef tea.—*Col. Med. Jour.*

## MEDICINE.

### HÆMORRHAGE FOLLOWING THE EXTRACTION OF TEETH.

A. A. Burns (*Amer. Jour. Dental. Sci.*) says:

After a tooth has been extracted, the blood comes spontaneously and flows for an unlimited time in a degree such as will not cause any alarm. Usually after five minutes flowing there is a process of clotting taking place. This stage in the flow of blood is called primary hæmorrhage, and is usually all that the surgeon has to deal with, as the blood generally stops flowing as soon as the clot is formed; but sometimes after the clot has formed, even eight or ten hours after, there appears a flow of blood more rapid than the preceding and in a somewhat pulsating manner. This is known as secondary hæmorrhage. When this occurs, it is first advisable to remove the clot which has formed in order that a more definite application may be made.

Take a strong solution of alum, formed by dissolving alum in warm water, and first applying with a syringe; after a few applications in this manner, pellets of cotton may be saturated with the solution and forced into the socket. Some think that a greater effect is produced by applying powdered alum to the pellet after saturation. This may make the action more powerful. However, if this is not effectual, it is well to repeat the treatment; or should we prefer another treatment of this, the wound may be syringed with peroxide of hydrogen, which is said to have an immediate action causing a clot which is not soluble in the blood. Pellets may also be saturated and inserted into wound.

If these methods are not successful, stronger styptics must be resorted to. The following are classed among the more powerful for local application: Nitrate of silver, tannic acid, subsulphate of iron, perchloride of iron, persulphate of iron, gallic acid, tincture of ergot. Care must be taken that no agent is employed as a styptic which will in any way destroy tissue.

Nitrate of silver may prove successful in some cases, but it causes destruction of the tissues with which it comes in contact, and also forms a clot which is soluble

in blood. Perchloride of iron acts in much the same manner.

Persulphate of iron is the best of the iron compounds. It acts readily, does not destroy tissue, and after action presents a clean looking wound.

Tannic acid is an excellent styptic, and answers well in connection with a compress of lint or cotton. Also gallic acid. The clot formed by these is not soluble in blood.

### TOOTHACHE.

Charles C. Crittenden (*Dental Review*) says: Toothache results from many different causes:

From irritation of living pulp due to sensitive dentine or full exposure; from congested pulp; from dead and putrescent pulp; from involvement of surrounding tissue from continuity and contiguity when poisonous gases in confinement force their way out of the roots.

Having located the trouble, it must be reached and fully discovered, to know its true character. It may prove a mere surface of inflamed dentine, with no real pulp involvement, in which case simply cleansing, stimulating with eugenol or creosote and then perfectly covering with cement, will command the situation until you are ready to make a permanent filling—always first having allayed the pain. It may transpire that a cavity reaches very nearly to the pulp chamber—so near that a turn of an excavator would expose the pulp. Then comes in play your best judgment as to what to do. The age, health, etc., of patient, general conditions of mouth and teeth are all to be considered. It is always best to make haste slowly though and do nothing you cannot undo. The first thing to accomplish is relief from pain. In this case, as in that of full exposure with hæmorrhage from pulp, a careful removal of débris, cleansing and drying of the cavity and application of a pledget of cotton dipped in eugenol and then touched in iodoform crystals and acetate of morphia powder, the whole placed in actual contact and sealed with bibulous paper saturated with sandaric varnish or chloro-percha without pressure, will bring your patient back next day happy and relieved, ready for what you may deem best to do further. Quick thermal changes are excellent helps in finding out "what's the



matter." If colder temperature produces quick pain, the pulp is surely in full life, and the above mentioned conditions and course of treatment are indicated.

If, on the other hand, cold produces relief, and heat a welling-up or paroxysmal pain, you will diagnose at once a congested pulp, that is, one where the application of heat induces an increased flow of arterial blood into the pulp tissue which the capillaries are unable to handle and return promptly. This pressure of engorgement produces paroxysmal pain, which will be relieved by quick wounding and bleeding of pulp, followed by the same dressing mentioned above. A stage further on, you will find—especially in teeth of more than one root—a portion of the pulp converted into pus, which, on uncovering and venting, will often enable you to see the heart pulsation welling through the opening of chamber, thus showing that a portion of the pulp further up the canals is still living. Depletion, cleansing and the same dressing before mentioned means relief to your patient. By the term *cleansing*, I mean the free use of  $H_2O_2$  with the Dunn syringe.

#### NEURALGIA.

For six months a lady, at frequent intervals, had terrible neuralgia of the shoulder, going down to the forearm. I asked her if her teeth had been examined, and she said that they had never been suspected by her physician as the cause of the trouble. I found under the free margin of the gum, on the buccal side of the wisdom-tooth, a cavity that penetrated to the pulp chamber. It was such a difficult place to get at, and she had suffered so long, I advised her to have it out, and after the extraction of the tooth the neuralgia disappeared from the shoulder.

I have seen other cases of neuralgia where, apparently, a very slight thing caused it all. I remember one case of a patient suffering with intense neuralgia, where there were no cavities in the teeth, except what had been well filled, but there was a noticeable recession of the gums, which I decided was the cause, from their hyper-sensitiveness. The exposed parts of the teeth were treated with a little nitrate of silver, which removed the sensitiveness and also the neuralgia.—*Dr. Smith, in Int. Dent. Jour.*

#### THE BEST NUTRITIVE ENEMA.

Ewald, as a result of experiments, found that eggs, even though not peptonized, were to a considerable extent, absorbed by the rectal mucous membrane. According to the *Mercure Medical* for April 1st, Huber, of Zurich, has recently repeated Ewald's experiments in Professor Eichorst's clinic, and announces that the absorption of raw eggs is greatly aided by the addition of common salt.

The salt is well borne, and causes, as a rule, no irritation of the bowel. He considers that eggs beaten up with salt, in the proportion of fifteen grains to each egg, are the best for nutritive enema. His method of procedure is as follows: Two or three eggs are taken, and thirty to forty-five grains of salt are added. They are slowly injected by means of a soft rubber tube, carried as high up the bowel as possible. Three such enemata are given daily. An hour before each enema the rectum is cleaned out by means of a large injection of warm water.—*N. Y. Med. Times*. October, 1892.

#### ORIGIN OF INSANITY.

The following are the conclusions of Dr. M. M. Buck (*Canad. Pract.*) on this subject:

1. All mental faculties arose each in its time, and they are of all ages, many of them being quite modern.

2. The date of birth of a faculty in the race may be judged by the age at which it appears in the individual, and its more or less universality in the race.

3. The stability of a faculty in the individual depends upon its age in the race; the older the faculty the more stable it is, and the less old the less stable.

4. Consequently the race whose evolution is the most rapid will be the most subject to breakdowns.

5. Those functions, in any given race whose evolution is the most rapid will be the most subject to breakdowns.

6. In the more progressive families of the Aryan race, the mental faculties have for some millenniums last past developed with great rapidity.

7. In this race the large number of mental breakdowns, commonly called insanity, are due to the rapid and recent evolution of those mental faculties.—*West. Med. Reporter*.

## GYNECOLOGY.

ON PLUGGING THE CERVIX UTERI  
INSTEAD OF VAGINA IN UTERINE  
HÆMORRHAGE.

Plugging the cervical canal in cases of severe uterine hæmorrhage (other than postpartum) will be found more effectual and much more comfortable to the patient than the older method of plugging the vagina. The want of a simple means for completely filling the cervical canal has long been felt, but I think it will be found a simple matter by the use of an instrument constructed as follows: It is simply an improved form of sliding depositor, the difference being that, instead of the canula being pushed forward on the rod, the latter is made to retreat into the canula by the pressure of the fingers on projecting side-bars, and so the cotton plug dressing on the top of the rod is pushed home with certainty into the cervix. It may be urged that in cases of metrorrhagia or very early abortion a sponge-tent or sea-tangle would be an easier mode of treatment, and quite as effectual. But besides the inconvenience of having to place a tampon in the vagina as well, to insure retention of the tangle or sponge, we have also the great liability to sepsis, and I certainly prefer being on the safe side. The size of the os being determined by digital examination, a piece of absorbent cotton is to be neatly wound round the projecting point of the instrument for about two inches of its length, and thickly enough to fully fill the canal.

The cotton plug is then to be saturated with whatever antiseptic styptic the operator prefers—saturated solution of alum in glycerin, iodine tincture or turpentine; but I have a strong dislike for iron. A large-sized cylindrical speculum is then introduced and the os and cervix syringed with hot water, so as to wash away all clots. The cervix is then to be steadied with a tenaculum, held in the left hand, while the plug is passed into the cervix, with the depositor held in the right, as far as possible, and, on pressure being made on the side-bars while the thumb supports the base of the instrument, the plug is pushed off the rod and the depositor withdrawn. The whole operation can thus be done without assistance. If the plug has been made of the proper dimensions, which, of course, must depend on the judgment of the operator, and inserted fully into the cervical canal, there need be no anxiety as to the result, and the anti-

septic and astringent action of turpentine, which I generally use myself, leaves nothing to be desired. The plug may be safely left till expelled by uterine action, when, if the hæmorrhage continue, the practitioner will be prepared to adopt other measures—washing out or curetting the uterus, or both. With a sponge-tent or sea-tangle in the womb it is always an anxious time for the practitioner, but with the plug properly in position he can take his own time about further interference. —Dr. Alex. Duke in *Satellite*.

PERIODICAL INTERMENSTRUAL  
PAIN.

In an article upon this subject (*Amer. Jour. Obstetrics*, October), Dr. Chauncey D. Palmer, of Cincinnati, Ohio, draws the following conclusions:

1. Periodical intermenstrual pain is a comparatively rare disease.
2. The disease is ovarian, not uterine.
3. This ovarian disease is an oöphoritis or peri-oöphoritis, or both.
4. The chief underlying exciting cause of these attacks of pain is the morbid obstruction to the extrusion of the contents of the Graafian follicles.
5. Many other morbid conditions, uterine, peri-uterine, or ovarian, may be associated with the oöphoritis or peri-oöphoritis, but their presence is not the cause of the essential symptoms.
6. Cure is effected only by overcoming the disease of the ovary or by its extirpation.

In regard to treatment he has found most benefit during the attack from the tincture of cannabis indica. Opiates he considers as objectionable here as in other forms of dysmenorrhœa. During the intervals reliance is to be placed on the most active so-called "alterative remedies;" mercuric bichloride, potassium iodide, ammonium chloride, and gold and sodium chloride, administered for a long time. The bromides are not to be ignored.

Local galvanization, with the anode to the vaginal vault, behind and to either side of the uterus, according to the ovary especially affected, occasionally changing to the secondary faradic current—the current of tension—has been of signal service to him.

Of course all manifest local disease, as well as errors of the general health, require attention, according to the kind and degree of the morbid complication. I have seen

good results following topical applications of ichthyolated boroglyceride. Counter-irritation before and during the periodical attacks of pain is sometimes efficacious.

Kreuznach waters, in Germany, so efficacious in the cure of some female pelvic diseases, would appear especially useful in this disease. We all recognize that a change of climate and scenery, with rest and its diversion, and massage, do as much in many of these conditions as the mineral waters themselves.

Finally, after a failure of medicinal and hygienic measures, faithfully tried, oöphorectomy is clearly indicated in bad cases. While oöphorectomy has been a greatly abused operation, particularly for many seeming reflex nervous diseases and for dysmenorrhœa, we are forced to accept the operation at times for this disease, but only as a last resort.

## HYGIENE.

### LIGHT IN THE SICK ROOM.

Dr. B. W. Richardson, in the course of a lecture on "Disease and How to Combat it," remarks:

A custom still prevails, despite all our sanitary teachings, that the occupants of a sick-room in the private house should be kept at all times in a darkened room. Not one time in ten do we enter a sick-room in the daytime to find it blessed with the light of the sun.

Almost invariably, before we can get a look at the face of the patient, we are obliged to request that the blinds be drawn up, in order than the rays of a much greater healer than the most able physician can ever hope to be, may be admitted. Too often the compliance with this request reveals a condition of the room which, in the state of darkness, is almost inevitably one of disorder everywhere; foods, medicines, furniture, bedding, misplaced; dust, stray leavings in all directions.

In brief, there is nothing so bad as a dark sick-room. It is as if the attendants were expecting the death of the patient. And if the reason for it is asked, the answer is as inconsistent as the act. The reason usually offered is that the patient cannot bear the light; as though the light could not be cut off from the patient by a curtain or screen, and as though to darken one part of the room it were neces-

sary to darken the whole of it. The real reason is an old superstitious practice, which once prevailed so intensely that the sick, suffering from the most terrible disease—smallpox, for instance—were shut up in darkness, their beds surrounded with red curtains during the whole of their illness. The red curtains are now pretty nearly given up, but the darkness is still credited with some mysterious curative virtue.

A more injurious practice really could not be maintained than that of darkness in a sick-room. It is not only that dirt and disorder are results of darkness—a great remedy is lost. Sunlight is the remedy lost, and the loss is momentous. Sunlight diffused through a room warms and clarifies the air; it has a direct influence on the minute organic poisons—a distinctive influence which is most precious—and it has a cheerful effect on the mind. The sick should never be gloomy, and in the presence of the light the shadows of gloom fly away. Happily, the hospital ward, notwithstanding its many defects—and it has many—is so far favored that it is blessed with the light of the sun whenever the sun shines. In private practice, the same remedy ought to be extended to the patients of the households, and the first words of the physician or surgeon on entering the dark sick-room should be the dying words of Goethe: "More light! more light!"—*The Druggist and Chemists' Gazette*.

### DIGESTIBILITY OF BEEF AND FISH.

Popoff's researches on the digestibility of beef and fish after different methods of preparation show that both are more digestible in the raw state than when cooked. The longer beef is cooked, the more indigestible it becomes. After the same manner of preparations, except smoking, beef will, in general, be better digested than fish. Smoked fish is more digestible than raw or cooked. On the other hand, smoked beef is peptonized with more difficulty than if in some other condition, perhaps because the indigestion is impaired by the strong salting which precedes the smoking.—*Med. Review*.

### THE SANITARY CONDITION OF CHICAGO.

"It is now well known abroad that Chicago is a pest-hole, and unless something is done mighty quick to improve matters, the expected millions at the World's Fair will fail to materialize, for, as the *Med-*



*cal Record* puts it, 'people can find other and more pleasant means of suicide nearer home.'

From the *Pacific Medical Journal* for August of this year, we take the above quotation. So many similar statements have appeared in different medical journals, that we feel it important to ascertain the exact state of affairs. With this end in view, we have requested the present, and the late, Secretaries of the Illinois State Board of Health to give us a statement, for publication, of the present sanitary condition of Chicago and of the sanitary measures proposed in view of the World's Fair.

We regret that both of these gentlemen found themselves too busy and too unwell to comply with our request.

We have, therefore, no reliable information on the subject, but, personally, we feel confident that the unparalleled energy, industry, good sense and intelligence of Chicago, will leave nothing undone that ought to be done to put the city in first-class sanitary condition.—*The Annals of Hygiene*.

### OBSTETRICS.

#### QUININE AS A PARTURIFACIENT.

To strengthen uterine pains there is nothing comparable to the quinine sulphate in ten or fifteen grain doses which is always accessible and easily administered. In suitably chosen cases it never disappoints. Its characteristic effects may be observed an hour after administration, pain recurring more frequently and with progressively increasing power; fretfulness and despondency yielding to confidence and earnestness of effort on the part of the woman. Where the labor was complicated by placenta previa, dilatation of cervix was promptly achieved by a dose of quinine, permitting entrance of hand, and thus promoting speedy delivery. In other cases, after controlling convulsions occurring before term, where prior to eight months there is apt to be a lack of energy, quinine has taken the place of forceps, terminating labor without accident. In short, whenever in the second stage of labor the natural effort seems inefficient, pains weak and frequent, or moderate and infrequent, give without delay ten or fifteen grains of the salt, and nineteen times in twenty labor will be speedily brought to a close. In a practice of twenty years

I have not had occasion to give a single dose of ergot before the expulsion of the after-birth, though for many years it has been my habit to administer a half drachm or a drachm afterward.

#### EFFECT OF ERGOT.

Dr. Meigs says: If an ergotic pain is produced to last thirty minutes, in a case where the placenta is on the fundus uteri, and to be jammed for thirty minutes against the child's breech, without an instant of relaxation, who can doubt that its circulation is either wholly or nearly abolished, and that when the child emerges at last from the mother's womb, it will emerge quite dead, or in a profound asphyxia from the long suppression of its placental circulation? Multitudes of children are born dead from this very cause, by the imprudent exhibition of a medicine, *which as certainly excites spasm of the womb as nux vomica does of the other muscles of the body*.

#### THE IMPORTANCE OF EXAMINATION OF THE GENITAL TRACT DIRECTLY AFTER LABOR.

In a short paper sometime since I endeavored to point out the obvious advantage of flushing the uterine cavity with hot water directly after delivery, and my reason for adopting such a proceeding.

I now wish to draw attention to the still more important point of making a close examination of the genital tract for any injury which may occur (more especially in the primiparae during the process of parturition) by both visual and tactile examination. The cervix uteri is frequently torn, the edges of the os lacerated, and the vaginal walls injured, leaving, perhaps, the perineum intact, and so the conclusion is oftentimes come to that "all is well," while considerable mischief may have taken place unobserved.

By the hot water flushing we get rid of several sources of danger, and, if a thorough examination is then made for vaginal or cervical injuries, it will be a comparatively easy matter, when such are found, to draw together the torn surfaces in severe lesions with catgut sutures, and cauterize the parts in minor ones with strong carbolic acid, thus leaving the parts concerned in a better condition for repair and less liable to absorb. It will be obvious that at no other time subsequent to

labor have we a better opportunity.

No objections will be raised by the patient, and acting on the proverb, "a stitch in time saves nine," may save her from septic absorption with all its train of untold misery.

The comfort to the conscientious practitioner's mind (when such lesions are found) by treating them at once is no small recommendation for the adoption of this proceeding, while the no less pleasurable disappointment of finding that none exist (and which could not have been determined without examination) will also commend itself. As a general rule, the uterus is not washed out directly after labor, nor any examination made, except of the perineum. The consequence is, that in many cases where septic symptoms develop, the true cause is never known, whether depending on a piece of membrane left to decompose in utero (which should have been removed by flushing before the binder was applied), or a lacerated cervix never discovered, or some tear in the vaginal surface, allowed, perhaps, for days subsequent to labor to absorb the morbid products of conception, and so, by permeating the patient's system, bid defiance to the best directed efforts of the practitioner. I am persuaded that in nine cases out of ten the septic symptoms in the lying-in patient are due to the causes I have pointed out in this paper. I may here allude to the danger (where no examination has been made of the genital canal) of endeavoring to combat the symptoms of septicæmia by syringing with corrosive sublimate solution, for should a torn or abraded surface exist (which, in my opinion, is almost a certainty) such surface, which, in the first instance, took up septic matter, is quite capable, as proved by some cases of severe burn treated with the corrosive solution, of absorbing it, and so contributing to, if not actually causing, the patient's death.—DUKE, *Medical Press and Circular*.

#### VINUM IMPECACUANHÆ IN WEAK LABOR PAINS.

Stillmark (*St. Petersburger Medicinische Wochenschrift*, No. 10, 1892) contributes the notes of a case of uterine inertia in which the contractions were re-established by the administration of wine of ipecac. The patient was a IV-para, with a history of easy previous labors. Three weeks

before the presumptive termination of her labor the membranes spontaneously ruptured, and one or two weak pains were experienced. The next morning Stillmark examined her and found head presenting in second position, os admitting two or three fingers. There were no pains. The patient was placed in a bath. Nine hours later, as the pains had not yet occurred, warm vaginal douches were applied without result. During the following night patient slept. Next morning, after a bath, warm vaginal irrigations were again used, and gentle massage to the uterus. As all this failed to establish the pains, wine of ipecac was administered in a fifteen-drop dose. Half an hour afterward the patient exclaimed that her abdomen felt hard. At 1.30 p. m., fifteen drops were again administered. In three quarters of an hour after the second dose strong normal pains began. In the evening the pains were weaker and about 10 o'clock had almost ceased. Five drops were now given, as some vomiting had occurred after the second dose. Energetic labor pains were soon established, and at 12 o'clock the child was delivered. The placenta followed.—*University Medical Magazine*.

#### NEWS AND MISCELLANY.

##### A SOURCE OF DANGER.

Confections of santonin, variously known as worm lozenges, worm troches, and worm confections, have been employed as domestic remedies for intestinal worms in children as far back as we can remember. It is a popular form of administering this well-known anthelmintic, and is resorted to by anxious mothers, without fear of untoward effects, just so soon as they have diagnosed "worms" to their own satisfaction. And when an accident happens, such as has been recorded recently, where a child two and a half years old is reported to have died from the effects of eating ten cents worth of the troches, it attracts but little attention, and the sale of the lethal confections goes on as briskly as before.

As found in the shops, the worm troche is a small cake of sugar, oval in shape, usually of a pinkish color and flavored with wintergreen. It cannot be easily distinguished from the ordinary confectioner's sweetmeat, and is altogether a very inviting-looking morsel. It is this inviting

appearance and the ease with which the troches may be procured by any person on demand which renders them such a source of danger. They are sold at the rate of ten cents per dozen, and when it is remembered that each troche contains exactly one-half grain of santonin, it will be readily understood how accidents may happen. Carelessness on the part of the child's guardians has been responsible for the majority of casualties reported from this source, and the child has in most instances been allowed to help itself to the toxic dose.

Some reform in the sale of domestic remedies of this description is evidently needed. The sale of santonin troches, in particular, should be restricted; and although a somewhat extreme measure, it would be in the interests of public safety to place santonin on the "poison schedule" and prohibit its indiscriminate sale in any form. In the meantime, it is to be hoped that druggists themselves will take sufficient interest in the matter to see to it that parcels of santonin troches are properly labeled before they are sent out.—*Pharmaceutical Record*.

#### RAILWAY SURGERY AT THE PAN-AMERICAN MEDICAL CONGRESS.

A Section of Railway Surgery of the Pan-American Medical Congress has been organized with Dr. C. W. P. Brock, of Richmond, Virginia, as Executive President. A full list of officers has been provided for each of the constituent countries. At the Eleventh Annual meeting of the Wabash Railway Surgical Association—the first organization of the kind—Dr. C. B. Stemen, of Fort Wayne, was by unanimous resolution requested to prepare a paper on "Organized Railway Surgery" and read the same before the Section on Railway Surgery of the Pan-American Medical Congress. At the same meeting Dr. Hal C. Wyman, of Detroit, offered the following which was unanimously adopted:

*Resolved*, That each member of this Association solicit his Congressman to interest himself in legislation in favor of the Pan-American Medical Congress.

#### EFFECT OF POSTURE ON HEALTH AND SYMMETRY.

In a paper devoted to this subject Dr. Eliza M. Mosher recapitulates as follows (*Brooklyn Med. Jour.*): There are three

fundamental postures in which the body in the upright equilibrates. A certain amount of muscular force is required to retain it in any of these positions. The first posture is not practicable as an habitual one, because it does not admit of alternation in the use of the lower extremities. The second places the body in the most symmetrical attitude it can take, and at the same time permits the alternate use of its supports. This is a posture not naturally chosen, but easily acquired by training. The third, which is the favorite posture of mankind, is harmful in its tendencies, both as regards its influence upon the symmetry of the body, and the economic and healthful use of its complex machinery. Its adoption then should be deprecated, and especially so in our schools and stores. The shape of the body in the sitting posture is greatly dependent upon the position of the arms and head. The one which best maintains the symmetry of the trunk, and therefore is most healthful, is that in which the spinal column balances upon the pelvis, with the arms at the sides and the head upright. The posture is the one which the body should be trained to assume in the schoolroom, the workshop and the carriage.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY FROM NOVEMBER 13, 1892, TO NOVEMBER 19, 1892.

Leave of absence for one month, with permission to apply to the proper authority for an extension of one month, is granted Major Calvin DeWitt, Surgeon, U. S. Army.

The leave of absence for (7) seven days granted Captain W. W. R. Fisher, Assistant Surgeon, U. S. Army, is hereby extended fourteen days.

First Lieutenant, Henry R. Stiles, Assistant Surgeon, (recently appointed) is assigned to duty at Jefferson Barracks, Missouri.

First Lieutenant, Paul F. Straub, Assistant Surgeon (recently appointed) is assigned to duty at Fort Riley Kansas.

First Lieutenant, Francis A. Winter, Assistant Surgeon, is relieved from duty at Fort Riley, Kansas, and assigned to duty at Fort Wingate, New Mexico.

First Lieutenant, A. E. Bradley, Assistant Surgeon is relieved from duty as attending surgeon, Hd-qrs., Dept. of the Platte, Omaha, Nebraska, and is assigned to duty at Fort Sully, South Dakota.

Captain Benjamin Munday, Assistant Surgeon, is relieved from duty at Fort Sully, S. D., and is assigned to duty at Fort Nebraska, Nebraska, for duty.

First Lieutenant, Harry M. Hallock, Assistant Surgeon, (recently appointed) is assigned to duty at Fort McPherson, Georgia, for duty at that post.

First Lieutenant, Robert S. Woodson, Assistant Surgeon, is relieved from duty at Fort McPherson, Georgia, and is assigned to duty at Fort Barrancas.